SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The Legend Coupe Supplemental Restraint System (SRS) includes a driver's airbag, located in the steering wheel hub, a front passenger's airbag, located in the dashboard above the glove box, and seat belt pretensioners, located in the seat belt retractors.

Information necessary to safely service the SRS is included in the '93 Legend Coupe Shop Manual Supplement (62SP121). Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done only by an authorized Honda dealer.

⚠ WARNING

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS testing and repair must be done by an authorized Honda dealer.**
- **Improper procedures, including incorrect removal and installation of the SRS components, could lead to personal injury caused by unintentional activation of the airbags and seat belt pretensioners.**
- **All SRS electrical wiring harnesses are covered with yellow outer insulation. Related components are located in the steering column, center console and armrest, dashboard lower panel, and in the dashboard above the glove box. Do not use electrical test equipment on these circuits.**

INTRODUCTION

How to Use This Manual

This supplement contains information for the 1994 LEGEND COUPE. Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
LEGEND MAINTENANCE, REPAIR AND CONSTRUCTION 91	62SP000
LEGEND COUPE SUPPLEMENT 91	62SP100
LEGEND COUPE SUPPLEMENT 92	62SP120
LEGEND COUPE SUPPLEMENT 93	62SP121

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

Special Information

⚠ WARNING **Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.**

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

CAUTION: Detailed descriptions of *standard workshop* procedures, safety principles and service operations are not included. Please note that this manual contains warnings and cautions against some specific service methods which could cause PERSONAL INJURY, damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by HONDA, might be done, or of the possible hazardous consequences of every conceivable way, not could HONDA investigate all such ways. Anyone using service procedures or tools, whether or not recommended by HONDA, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

All information containes in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

marked sections are not included in this manual.

First Edition 11/93 180 pages HONDA MOTOR CO., LTD.
Service Publication Office
All Rights Reserved

General Info
Special Tools
Specifications
Maintenance
Engine
Cooling
Fuel and Emissions
*Transaxle
*Steering
Suspension
Brakes (Including ABS / TCS)
*Body
*Heater and Air Conditioning
*Electrical (Including SRS)

As sections with * include SRS components; special precautions are required, when servicing.

Outline of Model Changes

ITEM	DESCRIPTION	MODELS				REFERENCE SECTION
		91	92	93	94	
General	LEGEND COUPE added	○				—
Engine	Changed: Engine mounts/brackets and Transmission mounts/brackets			○		—
	Changed: Suction pipe of air conditioning system (LHD model), Dipstick, Recommended oil and Intake manifold Truction Control System (TCS) adopted (KG, KS, KX, KF)				○	5, 6, 8, 9
Fuel and Emissions	Changed: Component locations and Fuel tank	○				—
	Electronic Control Unit (ECU) modified			○		—
	TCS control system added (KG, KS, KX, KF) ECU modified Changed: Electrical connections and Self-diagnostic procedures				○	11
Automatic Transmission	Changed: Gearshift points and Torque value of locknuts Modified: Gearshift selector (KQ), Hydraulic flow circuit, A/T speed sensor, Valve bodies and Rear cover			○		—
Suspension	16 inch aluminum wheel added (European type) Turning angle specifications changed			○		—
Brake (ABS)	ABS control unit changed			○		—
	TCS with TWS (Tire pressure Watching System) added (KG, KS, KX, KF)				○	19
Body	Changed: Dashboard, Doors, Exterior molding/Panels, Frame repair chart, Interior trim, Mirrors, Quater glass, Front seat belt and Rear seat Trunk spoiler added	○				—
	Front seats modified Rear seat access switch (Front passenger's seat) added			○		—
	Changed: Rear emblems and Sunroof construction				○	20
Air Conditioning	System for refrigerant HFC-134a (R-134a) changed			○		—
	Suction pipe of air conditioning system changed (LHD model)				○	22

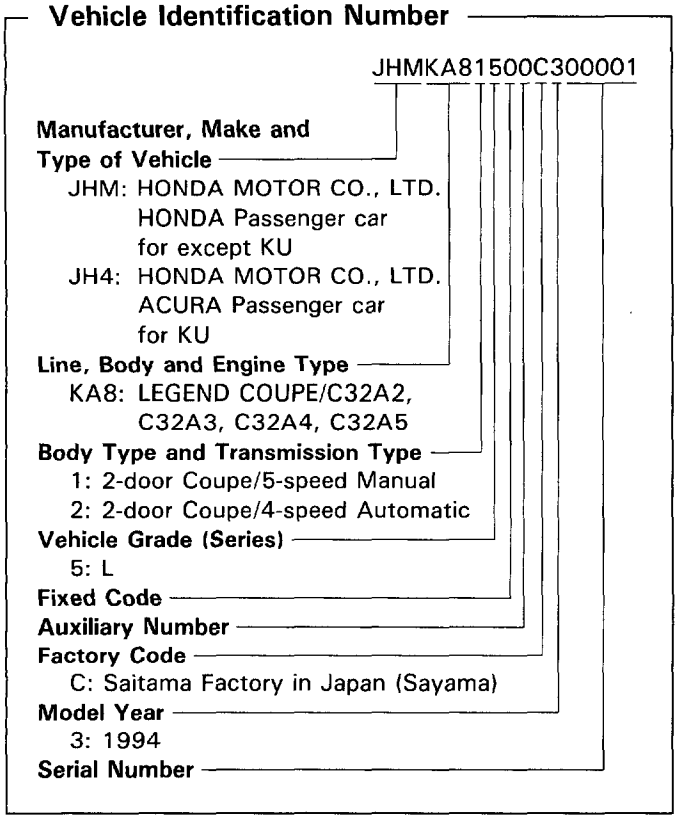
ITEM	DESCRIPTION	MODELS				REFERENCE SECTION
		91	92	93	94	
Electrical	Changed: Power supply circuit, Rear side marker lights/Taillights (KY), Locks, Keyless/Power door locks and Stereo sound system Added: Power door closer, Seat belt presenters, Power and Seat belt pretensioner (SRS) Rear ashtray illumination deleted	○				—
	Power supply circuit changed Added: Interlock system (KQ), Key-in reminder system (KY), Rear seat access switch (Front passenger's seat) and Spark plugs for models without catalytic converter			○		—
	Changed: Brake light failure sensors, Safety indicator failure sensor and Shift lever position indicator circuit Added: TCS light, TWS light (KG, KF, KS, KX) and Keyless entry system trunk receiver (Except KU, KM)				○	23
Supplemental Restraint System (SRS)	SRS unit changed Troubleshooting procedure modified		○			—
	Front seat passenger's airbag added			○		—

General Information

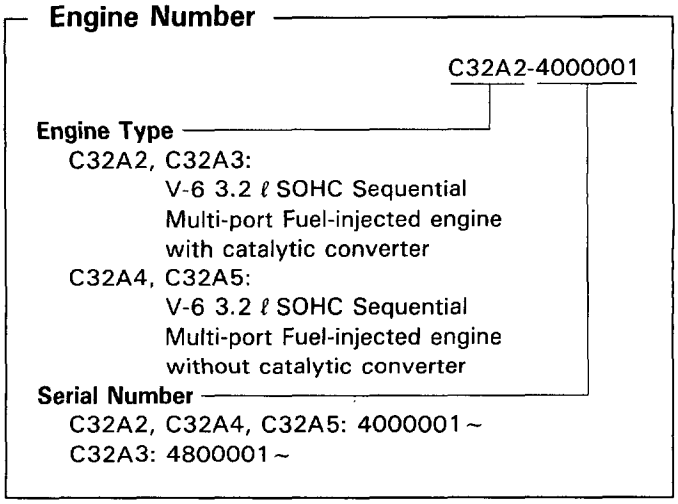
Chassis and Engine Numbers 1-2
Identification Number Locations 1-3
Warning/Caution Label Locations 1-5

Chassis and Engine Numbers

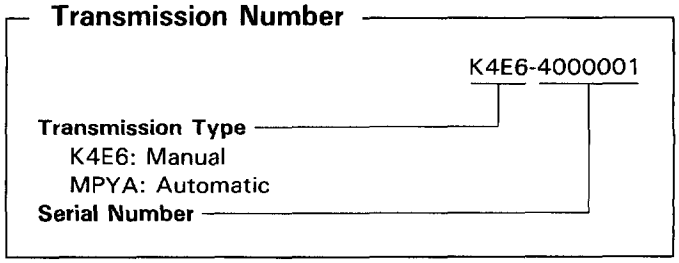
Vehicle Identification Number



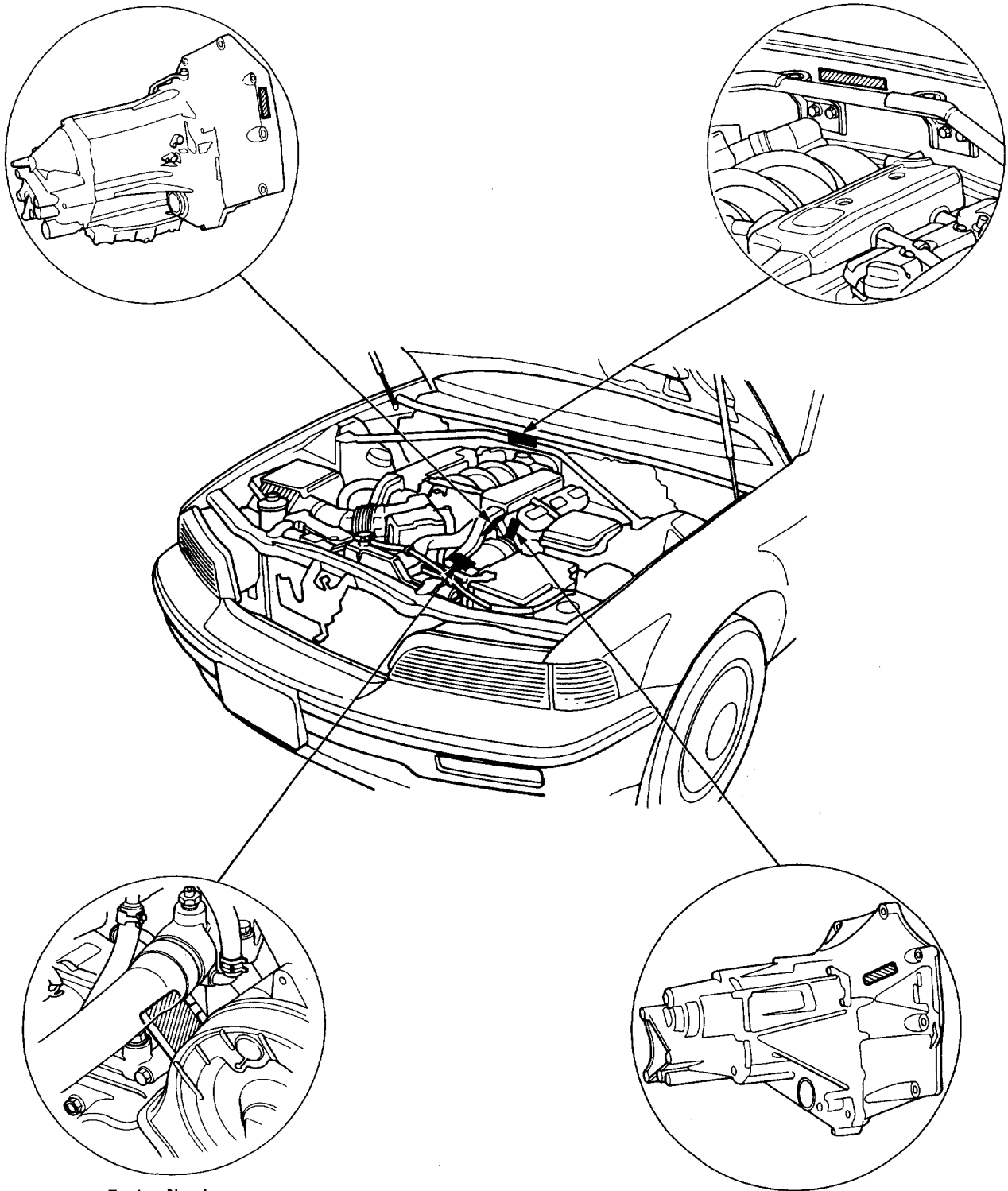
Engine Number



Transmission Number



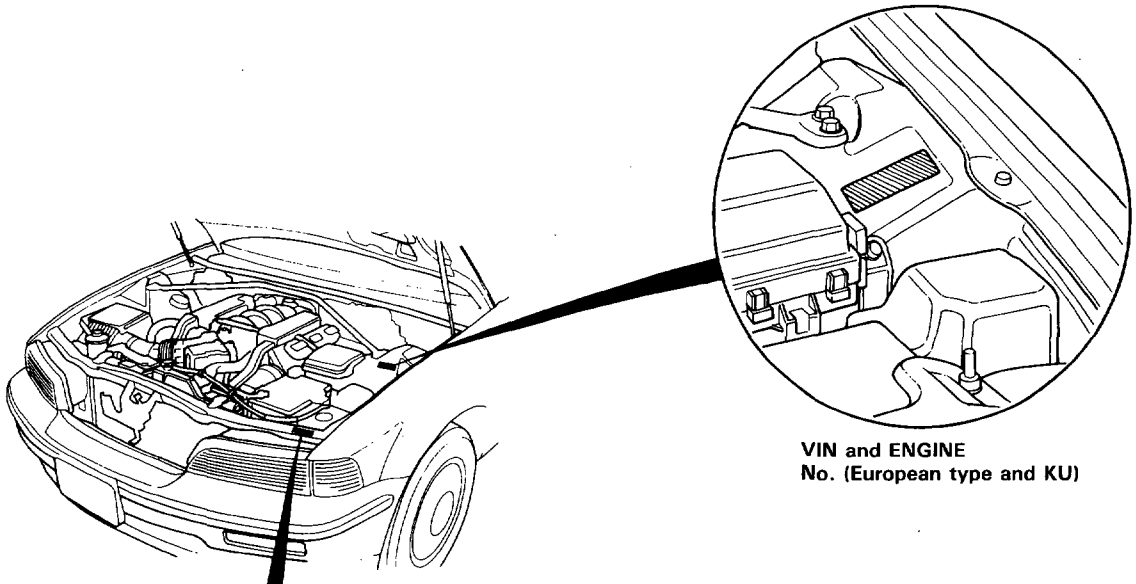
Identification Number Locations



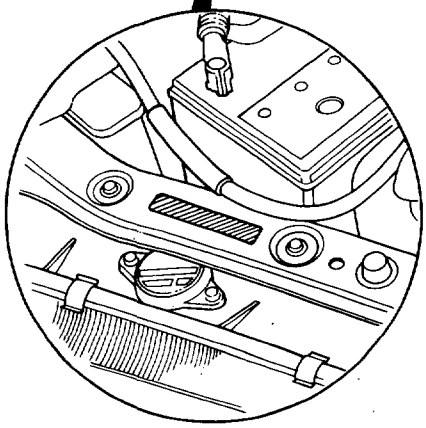
(cont'd)

Identification Number Locations

(cont'd)

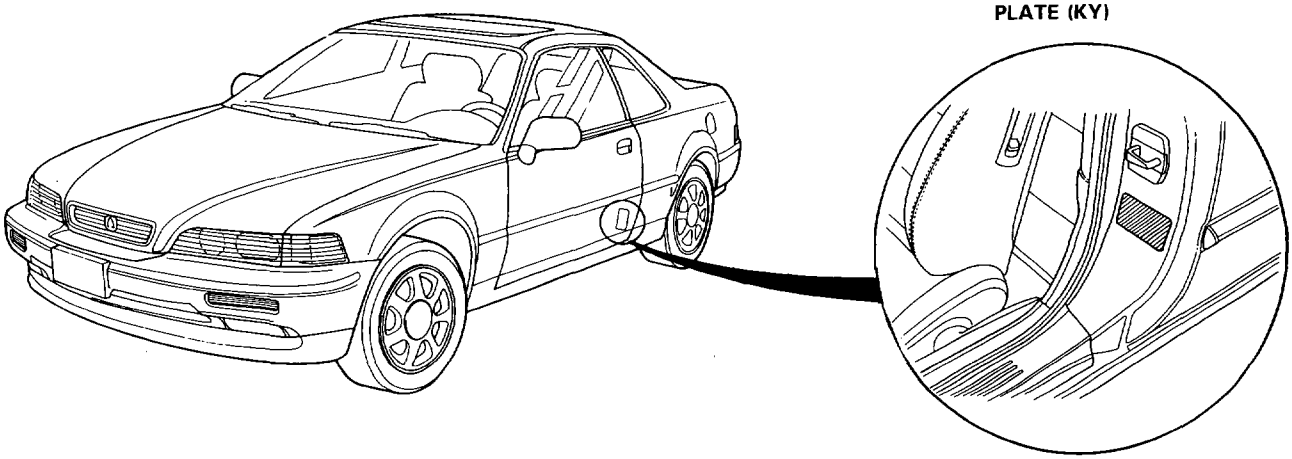


VIN and ENGINE
No. (European type and KU)

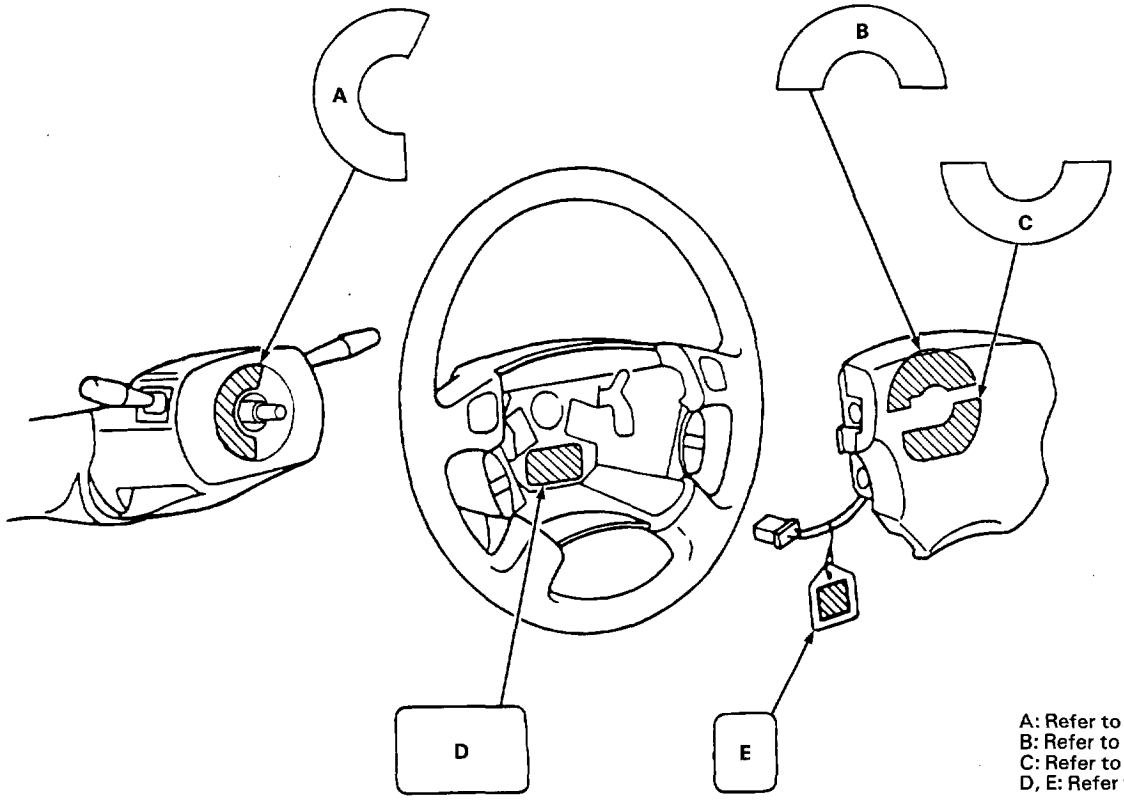


VIN and ENGINE No. (KT)
BUILT DATE and VEHICLE
TYPE (KQ)

CERTIFICATION
PLATE (KY)



Warning/Caution Label Locations



A: Refer to page 1-5.
B: Refer to page 1-5, 6.
C: Refer to page 1-6, 7.
D, E: Refer to page 1-7.

A: CABLE REEL CAUTION A
(KF, KG, KX, KE, KQ, KT, KU)

SRS
REFER TO SERVICE MANUAL FOR DETAILED INSTRUCTIONS.

POUR LES INSTRUCTIONS DETAILL'EES, SE REPORTER AU MANUEL DE REPARATIONS.

取扱い、保管はホンダサービスマニュアルを参照してください。

AUSF HRLICHE ANMEISUNGEN SIND DEM ZU ENTINEMEN.

RAAD PLEEG HET WERKPLAATSHANDBOEK VOOR NADERE AANWIJZINGEN.

(KS, KY)

SRS
REFER TO SERVICE (SHOP) MANUAL FOR DETAILED INSTRUCTIONS.

HÄNVISNIG TILL SHOP MANUAL FOR DETALJERADE ANIVISNINGAR.

KATSO KORJAAMOKASIKIRJAST TARKAT OHJEET.

ارجع الى دليل الخدمة لمزيد من التوصيات.

B: DRIVER MODULE DANGER
(KE, KQ, KT)

DANGER
EXPLOSIVE/FLAMMABLE SRS
CONTACT WITH ACID, WATER, OR HEAVY METALS SUCH AS COPPER, LEAD, OR MERCURY, MAY PRODUCE HARMFUL AND IRRITATING GASES OR EXPLOSIVE COMPOUNDS. STORAGE TEMPERATURES MUST NOT EXCEED 100°C. FOR PROPER HANDLING, STORAGE, AND DISPOSAL PROCEDURES REFER TO THE HONDA SERVICE (SHOP) MANUAL, SRS SUPPLEMENT.
POISON
CONTAINS POISONOUS SODIUM AZIDE AND POTASSIUM NITRATE.
FIRST AID:
IF CONTENTS ARE SWALLOWED, INDUCE VOMITING. FOR EYE CONTACT, FLUSH EYES WITH WATER FOR 15 MINUTES. IF GASES (FROM ACID OR WATER CONTACT) ARE INHALED, SEEK FRESH AIR. IN EVERY CASE, GET PROMPT MEDICAL ATTENTION.
KEEP OUT OF REACH OF CHILDREN.

(cont'd)

Warning/Caution Label Locations

(cont'd)

B: DRIVER MODULE DANGER
(KF, KG, KX)

- DANGER
  EXPLOSIVE/FLAMMABLE
  POISON
  REFER TO THE SHOP MANUAL.
- DANGER
  EXPLOSIF ET INFLAMMABLE
  POISON
  SE REPORTER AU MANUEL D'ATELIER.
- GEFAHR
  EXPLOSIV/ENTZÜNDBAR
  GIFT
  WERKSTATTHANDBUCH LESEN.
- GEVAAR
  EXPLOSIEGEVAAR/BRANDBAAR
  GIFTIG
  LEES HET WERKPLAATSHANDBOEK.

(KU)

⚠ DANGER
EXPLOSIVE/FLAMMABLE
CONTACT WITH ACID, WATER, OR HEAVY METALS SUCH AS COPPER, LEAD, OR MERCURY, MAY PRODUCE HARMFUL AND IRRITATING GASES OR EXPLOSIVE COMPOUNDS. STORAGE TEMPERATURES MUST NOT EXCEED 200°F (100°C). FOR PROPER HANDLING, STORAGE AND DISPOSAL PROCEDURES REFER TO THE HONDA SERVICE (SHOP) MANUAL, SRS SUPPLEMENT.
POISON
CONTAINS POISONOUS SODIUM AZIDE AND POTASSIUM NITRATE.
FIRST AID
IF CONTENTS ARE SWALLOWED, INDUCE VOMITING. FOR EYE CONTACT, FLUSH EYES WITH WATER FOR 15 MINUTES. IF GASES (FROM ACID OR WATER CONTACT) ARE INHALED, SEEK FRESH AIR. IN EVERY CASE, GET PROMPT MEDICAL ATTENTION.
KEEP OUT OF REACH OF CHILDREN.

⚠ DANGER
EXPLOSIBLE/INFLAMMABLE
TOUT CONTACT AVEC L'ACIDE, L'EAU OU DES METAUX LOURDS COMME LE CUIVRE, LE PLOMB OU LE MERCURE RISQUE DE PRODUIRE DES GAZ NOCIFS ET IRRITANTS OU DES COMPOSES EXPLOSIFS. LES TEMPERATURES DE RANGEMENT NE DEVRONT PAS DEPASSER 200°F (100° C). POUR LES PROCEDURES DE MANIPULATION, DE RANGEMENT ET DE MISE AU REBUT, VOIR LE SUPPLEMENT SRS DU MANUEL D'ENTRETIEN.
POISON
RENFERME DE L'ACIDE DE SOUDE ET DU NITRATE DE POTASSIUM TOXIQUES.
PREMIERS SECOURS
SI LE CONTENU EST ABSORBE, INDUIRE UN VOMISSEMENT. EN CAS DE CONTACT AVEC LES YEUX, LAVER A GRANDE EAU PENDANT UN QUART D'HEURE. EN CAS D'INHALATION DES GAZ (PAR CONTACT AVEC L'ACIDE OU L'EAU), ALLER A L'AIR FRAIS. DANS TOUS LES CAS, OBTENIR PROMPTEMENT DES SOINS MEDICAUX.
TENIR HORS DE PORTEE DES ENFANTS.

(KS, KY)

- DANGER
  EXPLOSIVE/FLAMMABLE POISON
  REFER TO THE SHOP MANUAL.
- FARLIGT
  EXPLOIVT/LÄTTANTÄNDLIGT GIFTIGT SE VERKSTADSHANDBOKEN.
- VAARA
  HELPOSTI RÄJÄHTÄVÄ/SYTTYVÄ MYRKKY GIFT KATSO TYÖKÄSIKIRJAA.
- مادة خطيرة
  مادة متفجرة/قابلة للاشتعال
  مادة سامة
  لمزيد من المعلومات نرجو مراجعة كتيب دليل الاستخدام في الورشة.

C: DRIVER MODULE WARNING
(KE, KQ, KT)

WARNING SRS
TO PREVENT ACCIDENTAL DEPLOYMENT AND POSSIBLE INJURY:
ALWAYS INSTALL THE PROTECTIVE SHORT CONNECTOR ON THE INFLATOR CONNECTOR WHEN THE HARNESS IS DISCONNECTED.
UNDER NO CIRCUMSTANCES SHOULD DIAGNOSIS BE PERFORMED USING ELECTRICAL TEST EQUIPEMENT OR PROBING DEVICES. NO SERVICEABLE PARTS INSIDE. DO NOT DISASSEMBLE OR TAMPER. STORE THE REMOVED AIRBAG ASSEMBLY WITH THE PAD SURFACE UP.
FOR SPECIAL HANDLING OR STORAGE REFER TO THE HONDA SERVICE (SHOP) MANUAL.
DISPOSE OF THE ENTIRE UNIT AS DIRECTED.

(KU)

⚠ WARNING
THE AIRBAG INFLATOR IS EXPLOSIVE AND, IF ACCIDENTALLY DEPLOYED, CAN SERIOUSLY HURT OR KILL YOU.
- DO NOT USE ELECTRICAL TEST EQUIPEMENT OR PROBING DEVICES.
  THEY CAN CAUSE ACCIDENTAL DEPLOYMENT.
- NO SERVICEABLE PARTS INSIDE. DO NOT DISASSEMBLE.
- PLACE AIRBAG UPRIGHT WHEN REMOVED.
- FOLLOW SERVICE (SHOP) MANUAL INSTRUCTIONS CAREFULLY.

⚠ ATTENTION
LE GONFLEUR DE COUSSIN D'AIR EST EXPLOSIBLE ET S'LL SE DEPLOIE ACCIDENTELLEMENT, IL RISQUE DE PROVOQUER DES BLESSURES GRAVES OU DE TUER.
- NE PAS UTILISER DE MATERIEL D'ESSAI ELECTRIQUE NI DE SONDE.
  ILS POURRAIENT PROVOQUER UN DEPLOIEMENT ACCIDENTEL DU COUSSIN D'AIR.
- IL N'Y A PAS DE PIECES REPARABLES A L'INTERIEUR. NE PAS DEMONTER.
- QUAND ON RETIRE LE COUSSIN D'AIR, LE TENIR A LA VERTICALE.
- SUIVRE ATTENTIVEMENT LES INSTRUCTIONS DU MANUEL D'ENTRETIEN.

(KF, KG, KX)

WARNING SRS
- REFER TO THE SHOP MANUAL.
- SE REPORTER AU MANUEL D'ATELIER.
- WERKSTATTHANDBUCH LESEN.
- LEES HET WERKPLAATSHANDBOEK.

(KS, KY)

WARNING SRS
- REFER TO THE SHOP MANUAL.
- SE VERKSTADSHANDBOKEN.
- KATSO TYÖKÄSIKIRJAA.
- لمزيد من المعلومات نرجو مراجعة كتيب دليل الاستخدام في الورشة.

D: STEERING WHEEL WARNING
(KF, KG, KX, KE, KQ, KT, KU)

WARNING SRS
- REFER TO THE SHOP MANUAL.
- SE REPORTER AU MANUEL D'ATELIER.
- WERKSTATTHANDBUCH LESEN.
- LEES HET WERKPLAATSHANDBOEK.

(KS, KY)

WARNING SRS
- REFER TO THE SHOP MANUAL.
- SE VERKSTADSHANDBOKEN.
- KATSO TYÖKÄSIKIRJAA.
- لمزيد من المعلومات نرجو مراجعة كتيب دليل الاستخدام في الورشة.

E: INFLATOR BAM LABEL
(KF, KG, KX only)
TRW Safety Systems manufactured inflator:

AIRBAG GAS GENERATOR 150028
TRW SAFETY SYSTEMS/MESA
HERSTELLUNGSJAHR: 1989
EINFÜHRER: HONDA DEUTSCHLAND GMBH/OFFENBACH
BAM PT_1-0358

DER GASGENERATOR DART NUR FÜR INSASSEN-RÜCKHALTESYSTEME MIT LUFTSACK IN KRAFTFAHRZEUGE MONTIERT WERDEN.
DIE MONTAGE UND DEMONTAGE DES GASGENERATORS DARF NUR VON DAFÜR GESCHULTEM PERSONAL VORGENOMMEN WERDEN.

CAUTION CONTAINS FLAMMABLE SOLIDS US DOT-E-8236	THE GAS GENERATOR SHOULD ONLY BE INSTALLED IN VEHICLES EQUIPPED WITH THE AIRBAG SYSTEM. THE GAS GENERATOR IS TO BE INSTALLED AND/OR DISASSEMBLED ONLY BY TRAINED PERSONNEL.
ATTENTION CONTENT DE SOLIDES FLAMMABLES US DOT-E-88236	LE GENERATEUR DE GAZ NE PEUT ETRE INSTALLE QUE SUR DES VEHICULES EQUIPES D'UN SYSTEME AIRBAG LE MONTAGE ET LE DEMONTAGE DU GENERATEUR DE GAZ NE PEUT ETRE EFFECTUE QUE PAR UN PERSONNEL QUALIFIE.

NIPPON KOKI manufactured inflator:

AIRBAG GAS GENERATOR NK8
NIPPON KOKI, SHIRAKAWA JAPAN
HERSTELLUNGSJAHR: 1991
EINFÜHRER: HONDA DEUTSCHLAND GMBH/OFFENBACH
BAM PT_1-0379

DER GASGENERATOR DART NUR FÜR INSASSEN-RÜCKHALTESYSTEME MIT LUFTSACK IN KRAFTFAHRZEUGE MONTIERT WERDEN.
DIE MONTAGE UND DEMONTAGE DES GASGENERATORS DARF NUR VON DAFÜR GESCHULTEM PERSONAL VORGENOMMEN WERDEN.

CAUTION CONTAINS FLAMMABLE SOLIDS	THE GAS GENERATOR SHOULD ONLY BE INSTALLED IN VEHICLES EQUIPPED WITH THE AIRBAG SYSTEM. THE GAS GENERATOR IS TO BE INSTALLED AND/OR DISASSEMBLED ONLY BY TRAINED PERSONNEL.
ATTENTION CONTENT DE SOLIDES FLAMMABLES	LE GENERATEUR DE GAZ NE PEUT ETRE INSTALLE QUE SUR DES VEHICULES EQUIPES D'UN SYSTEME AIRBAG LE MONTAGE ET LE DEMONTAGE DU GENERATEUR DE GAZ NE PEUT ETRE EFFECTUE QUE PAR UN PERSONNEL QUALIFIE.

(cont'd)

Warning/Caution Label Locations

(cont'd)

F: HOOD WARNING LABEL
(KF, KG, KX, KE, KQ, KT, KU)

WARNING SRS
THIS VEHICLE IS EQUIPPED WITH A AIRBAG SYSTEM AS A SUPPLEMENTAL RESTRAINT SYSTEM. (SRS)
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.

ATTENTION SRS
CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULELUR JAUNE. N'UTILISEZ PAS UN EQUIPEMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.

WARNUNG SRS
DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET.
ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S.-SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT. KEINE ELEKTRISCHEN PRÜFGERÄTE AN DIE S.R.S.-VERKABELUNG ANSCHLIEBEN. VERÄNDERN ODER UNTERBRECHEN DER S.R.S.-VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN.
ODER DAS SYSTEM AUBER FUNKTION SETZEN WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.

WAARSCHUWING SRS
DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALS EXTRA BESCHERMING (S.R.S.).
ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBRUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELEN VAN HET SYSTEEM: DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.

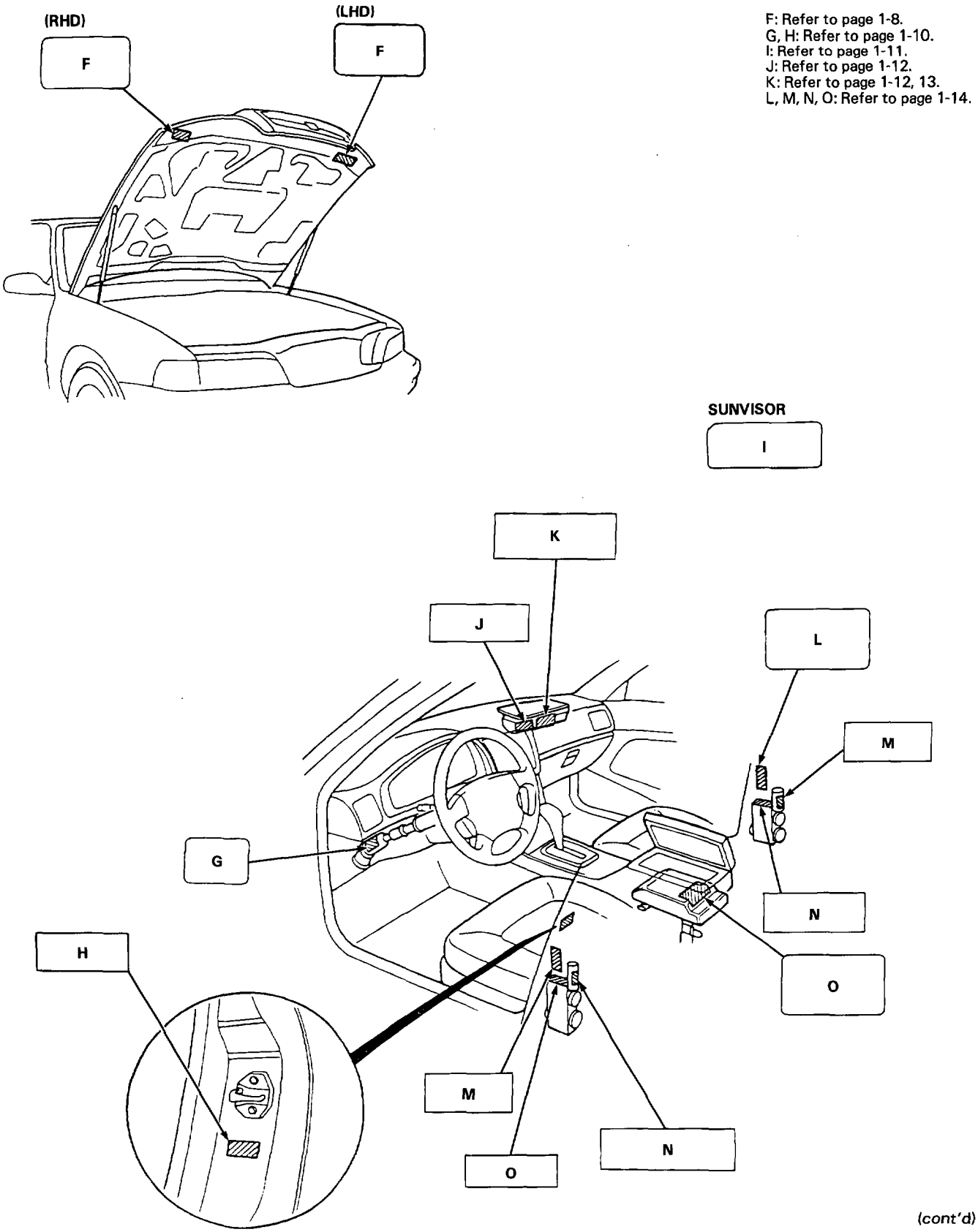
(KS, KY)

WARNING SRS
THIS VEHICLE IS EQUIPPED WITH A AIRBAG SYSTEM AS A SUPPLEMENTAL RESTRAINT SYSTEM. (SRS)
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.

VARNING SRS
DETTA FORDON HAR EN LUFTKUDDE FÖR FÖRARSÄTET SOM ETT KOMPLETTERANDE SKYDDSSYSTEM (SRS). SAMTLIGA ELLEDNINGAR OCH KONTAKTER I SRS-SYSTEMET ÄR GULFÄRGADE. ANVÄND INTE ELEKTRISK PROVUTRUSTNING FÖR DESSA KRETSAR. OM DU ÄNDRAR ELLER LOSSAR EN SRS-LEDNING KAN DET RESULTERA I EN OAVSIKTLIG UTLÖSNING AV TRYCKPUMPEN ELLER GÖRA ATT SYSTEMET SLUTAR FUNGERA. DÅ KAN EN ALLVARLIG OLYCKA UPPSTÅ.

VAROITUS SRS
TÄSSÄ AUTOSSA ON YLIMÄÄRÄISENÄ TUKIJÄRJESTELMÄNÄ AJAJAN ILMATYYNY. (SRS) KAIKKI SRS-SÄHKÖJOHDOT JA-LIITTIMET OVAT KELTAISET.
ÄLÄ KÄYTÄ SÄHKÖKOELAITTEITA NÄISSÄ VIRTAPIIREISAÄ. SRS-JOHTOJEN TUKKEAMINEN TAI IRROTTAMINEN SAATTAA SYTYTTÄÄ VAHINGOSSA PUMPUN TAI TEHDÄ JÄRJESTELMÄN KÄYTTÖKELVOTTOMAKSI.
TÄSTÄ TAAS SAATTAA AIHEUTUA VAKAVIA VAURIOITA.

تنبيه : (S.R.S.)
تم تجهيز هذه السيارة بكيس هوائي لوقاية السائق كنظام كبح اضافي (S.R.S.).
جميع الأسلاك الكهربائية الخاصة بنظام الكبح الاضافي (S.R.S.) والموصلات ملونة باللون الأصفر.
لا تستعمل معدات اختبار الكهرباء على هذه الدوائر. ان العبث أو فصل أسلاك نظام الكبح الاضافي (S.R.S.) يمكن أن يؤدي للحريق العرضي للنافخ أو يتسبب في تعطيل النظام عن العمل مما يؤدي الى حدوث أضرار خطيرة.



F: Refer to page 1-8.
G, H: Refer to page 1-10.
I: Refer to page 1-11.
J: Refer to page 1-12.
K: Refer to page 1-12, 13.
L, M, N, O: Refer to page 1-14.

(cont'd)

Warning/Caution Label Locations

(cont'd)

G: STEERING COLUMN CAUTION LABEL
(KF, KG, KX)

CAUTION SRS
TO AVOID DAMAGING THE S.R.S. CABLE OR REEL, WHICH COULD MAKE THE SYSTEM INOPERATIVE, REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING SHAFT CONNECTOR BOLT.

ATTENTION SRS
POUR NE PAS RISQUER D'ENDOMMAGER LE CABLE OU L'ENROULEUR DU S.R.S. ET DE RENDRE AINST LE SYSTEME INOPERANT, RETIREZ LE VOLANT AVANT DE DEVINSSER LE BOULON D'ACCOUPLEMENT D'ARBRE DE DIRECTION.

ACHTUNG SRS
UM BESCHÄDIGUNGEN DER S.R.S.-KABELROLLE ODER DES KABELS. WELCHE DAS S.R.S.-SYSTEM AUBER FUNKTION SETZEN WÜRDEN. ZU VERMEIREN, VOR ARBEITEN AN DER LENKSPINDEL DAS LENKRAD AUSBAUEN.

WAARSCHUWING SRS
OM TE VOORKOMEN DAT DE S.R.S.-KABEL OF- HASPEL BESCHADIGD WORDEN, HETGEEN ERTOE ZOU LEIDEN DAT HET SYSTEEM UITVALT, DIENT U HET STUUR TE VERWIJDEREN VOORDAT U DE STUURSCHACHT-CONNECTORBOUT VERWIJDERT.

(KE, KQ, KT, KU)

CAUTION SRS
TO AVOID DAMAGING THE S.R.S. CABLE OR REEL, WHICH COULD MAKE THE SYSTEM INOPERATIVE, REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING SHAFT CONNECTOR BOLT.

ATTENTION SRS
POUR NE PAS RISQUER D'ENDOMMAGER LE CABLE OU L'ENROULEUR DU S.R.S. ET DE RENDRE AINST LE SYSTEME INOPERANT, RETIREZ LE VOLANT AVANT DE DEVISSER LE BOULON D'ACCOUPLEMENT D'ARBRE DE DIRECTION.

(KS)

OBSERVERA SRS
FÖR ATT UNDVIKA SKADOOR PA SRS-SYSTEMETS KABEL ELLER TRUMMA, NAGOT SOM KAN GÖRA ATT SYSTEMET INTE FUNGERAR, SKALL RATTEN TAS BORT INNAN RATTAXELNS BULT TAS BORT.

VAROITIUS SRS
SRS-KAAPELIN JA RULLAN VAHINGOITTUMISEN ESTÄMISEKSI, JOTTS JÄRJESTELMÄ EI MENISI KÄYTTÖKELVOTTOMAKSI, IRROTETAAN OHJAUSPYÖRÄ ENNE KUIN IRROTETAAN OHJAUSVARREN LIITTIMEN PULTTI.

(KY)

CAUTION SRS
TO AVOID DAMAGING THE S.R.S. CABLE OR REEL, WHICH COULD MAKE THE SYSTEM INOPERATIVE, REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING SHAFT CONNECTOR BOLT.

تحذير : (S.R.S.)
لكى تتجنب اتلاف كبل نظام الكبح الاضافي (S.R.S.) أو البكرة، الذي يمكن أن يعطل تشغيل النظام، انزع عجلة القيادة قبل نزع برغي موصل جذع المقود.

H: LABEL
AIRBAG

I: DRIVER INFORMATION LABEL (SUNVISOR)
(KF, KG, KX)

SRS ALWAYS WEAR YOUR SEAT BELT
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AND A FRONT SEAT PASSENGER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

SRS ATTACHEZ TOUJOURS VOTRE CEITURE
- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR POUR LE PASSAGER AVANT, QUI CONSTITUENT UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
- CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE CECURITE.
- SI LE TEMOIN SRS S'ALLUME PENDANT LA CONDUITE, ADRESSEZ-VOUS A VOTRE CONSSIONNARIE HONDA OFFICIEL.

SRS SICHERHEITSUGRTE BEI JEDER FAHRT ANLEGEN
- DIESES FAHRZEUG BESITZT JE EINEN AIRBAG FÜR FAHRER UND BEIFAHRER ALS ZUSÄTZLICHES RÜCKHAL TESYSTEM (S.R.S.).
- DAS RÜCKHALTESYSTEM IST EINE ERGÄNZUNG ZUM SICHERHEITSGURT.
- SOLLTE WAHREND DER FAHRT DIE SRS-KONTROLLEUCHTE AUFLEUCHTEN SUCHEN SIE BITTE UNGEHEND EINEN HONDA-HÄNDLER SUF.

SRS DRAAG ALTIJD UW VEILIGHEIDSGORDEL
- DIT VOERTUIG IS UITGERUST MET AIRBAG (SRS) AAN BESTUURDERSZIJDE EN PASSAGIERSZIJDE VOOR EXTRA VEILIGHEID.
- ONTWORPEN ALS EXTRA BESCHERMING NAAST DE VEILIGHEIDSGORDELS.
- ALS HE SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN, NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

(KE, KQ, KT)

SRS ALWAYS WEAR YOUR SEAT BELT
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AND A FRONT SEAT PASSENGER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

(KU)

SRS ALWAYS WEAR YOUR SEAT BELT
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AND A FRONT SEAT PASSENGER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED ACURA DEALER.

(KS, KY)

SRS ALWAYS WEAR YOUR SEAT BELT
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AND A FRONT SEAT PASSENGER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

SRS ANVÄND ALLTID BILBÄLTET
- OETTA FORDOM ÄR FÖRSETTMED EN LUFTKUDDE FÖRARSÄTET OCH EN LUFKUDDE FÖR PASSAGERASÄTET FRAM SOM ETT KOMPLETTERANCE SKYDDSSYSTEM (S.R.S.).
- DET ÄR ÄMNAT ATT KOMPLETTERA BILBÄLTET.
- OM SRS-INDIKATORN TÄNDS UNDER KÖRNING SKALL DU KONTAKTA EN AUKTORISERAD HONDA-ATERFÖRSÄLJARE.

SRS KÄYTÄ AINA TURVAVYÖTÄ
- TÄMÄ AUTO OM VARUSTETTU AJAJAN ILMATYYNYLLÄ JA ETUMATKUSTAJAN ILMATYYNYLLÄ JOTKA TOIMIVAT YLIMAARAISENÄ TUKIJÄJESTELMÄMÄ.
- SE ON SUUNNITELTU TÄYDENTÄMÄÄN TURVAVYÖTÄ.
- JOS SRS-MERKKIVALO SYTTYY AJON AIKANA, OTTAKAA YHTEYS VALTUUTETTUUN HONDA-MYYJÄÄN.

(S.R.S.) استعمل دائما حزام المقعد
- تم تجهيز هذه السيارة بكيس هوائي لوقاية السائق كنظام كبح اضافي (S.R.S.).
- تم تصميمه لتكميل حزام المقعد.
- قبل القيادة، اقرأ البطاقة الموجودة بداخل لوحة التحكم.

(cont'd)

Warning/Caution Label Locations

(cont'd)

J: INFLATOR BAM LABEL
(KF, KG, KX only)

AIRBAG GAS GENERATOR UT 11873
MORTON INTERNATIONAL, OGDEN, USA
HERSTELLUNG: (JAHR)
EINFÜHRER: HONDA DEUTSCHLAND
GMBH 6050 OFFENBACH
BAM PT,-0437

DER GASGENERATOR DARF NUR FÜR INSASSEN-RÜCKHALTESYSTEME MIT LUFTSACK IN KRAFTFAHRZEUGE MONTIERT WERDEN.
DIE MONTAGE UND DEMONTAGE DES GASGENERATORS DARF NUR VON DAFÜR GESCHULTEM PERSONAL VORGENOMMEN WERDEN.

CAUTION CONTAINS FLAMMABLE SOLIDS	THE GAS GENERATOR SHOULD ONLY BE INSTALLED IN VEHICLES EQUIPPED WITH THE AIRBAG SYSTEM. THE GAS GENERATOR IS TO BE INSTALLED AND/OR DISASSEMBLED ONLY BY TRAINED PERSONNEL.
ATTENTION CONTENT DE SOLIDES FLAMMABLES	LE GENERATEUR DE GAZ NE PEUT ETRE INSTALLE QUE SUR DES VEHICULES EQUIPES D'UN SYSTEME AIRBAG LE MONTAGE ET LE DEMONTAGE DU GENERATEUR DE GAZ NE PEUT ETRE EFFECTUE QUE PAR UN PERSONNEL QUALIFIE.

K: PASSENGER MODULE DANGER LABEL
(KF, KG, KX)

- DANGER SRS
  EXPLOSIVE/FLAMMABLE
  POISON
- WARNING
  REFER TO THE SHOP MANUAL.
- DANGER
  EXPLOSIF ET INFLAMMABLE
  POISON
- ATTENTION
  SE REPORTER AU MANUEL D'ATELIER.
- GEFAHR
  EXPLOSIV/ENTZÜNDBAR
  GIFT
- WARNUNG
  WERKSTATTHANDBUCH LESEN.
- GEVAAR
  EXPLOSIEGEVAAR/BRANDBAAR
  GIFTIG
- WAARSCHUWING
  LEES HET WERKPLAATSHANDBOEK.

(KS,KY)

- DANGER SRS
  EXPLOSIVE/FLAMMABLE
  POISON
  REFER TO THE SHOP MANUAL.
- FARLIGT SRS
  EXPLOIVT/LÄTTANTÄNDLIGT
  GIFTIGT
  SE VERKSTADBOKEN.
- ATTENTION
  SE VERKSTADBOKEN.
- VAARA SRS
  HELPOSTI RÄJÄHTÄVÄ/SYTTYVÄ
  MYRKKY
  KATSO LIIKEOHJETTA.
- خطر : SRS
  سريع الانفجار/سريع الالتهاب
  سام
  ارجع الى دليل التسويق

K: PASSENGER MODULE DANGER LABEL
(KE, KQ, KT, KU)

⚠ DANGER EXPLOSIVE/FLAMMABLE CONTACT WITH ACID, WATER, OR HEAVY METALS SUCH AS COPPER, LEAD OR MERCURY MAY PRODUCE HARMFUL AND IRRITATING GASES OR EXPLOSIVE COMPOUNDS. STORAGE TEMPERATURES MUST NOT EXCEED 200°F (100°C). FOR PROPER HANDLING, STORAGE AND DISPOSAL PROCEDURE REFER TO SERVICE (SHOP) MANUAL, SRS SUPPLEMENT. POISON CONTAINS POISONOUS SODIUM AZIDE AND POTASSIUM NITRATE. FIRST AID IF CONTENTS ARE SWALLOWED, INDUCE VOMITING. FOR EYE CONTACT, FLUSH EYES WITH WATER FOR 15 MINUTES. IF GASES (FROM ACID OR WATER CONTACT) ARE INHALED, SEEK FRESH AIR, IN EVERY CASE, GET PROMPT MEDICAL ATTENTION. KEEP OUT OF REACH OF CHILDREN.	⚠ DANGER EXPLOSIBLE/INFLAMMABLE TOUT CONTACT AVEC L'ACIDE, L'EAU OU DES METAUX LOURDS COMME LE CUIVRE, LE PLOMB OU LE MERCURE RISQUE DE PRODUIRE DES GAZ NOCIFS ET IRRITANTS OU DES COMPOSES EXPLOSIFTS. LES TEMPERATURES DE RANGEMENT NE DEVRONT PAS DEPASSER 200°F (100°C). POUR LES PROCEDURES DE MANIPULATION, DE RANGEMENT ET DE MISE AU REBUT, VOIR LE SUPPLEMENT SRS DU MANUEL D'ENTRIEN. POISON RENFERME DE L'ACIDE DE SOUDE ET DU NITRATE DE POTASSIUM TOXIQUES. PREMIERS SECOURS SI LE CONTENU EST ABSORBE, INDUIRE UN VOMISSEMENT. EN CAS DE CONTACT AVEC LES YEUX, LAVER A GRANDE EAU PENDANT UN QUART D'HEURE. EN CAS D'INHALATION DES GAZ (PAR CONTACT AVEC L'ACIDE OU L'EAU). ALLER A L'AIR FRAIS. DANS TOUS LE CAS, OBTENIR PROMPTEMENT DES SOINS MEDICAUX. TENIR HORS DE PORTEE DES ENFANTS.
⚠ WARNING THE AIRBAG INFLATOR IS EXPLOSIVE AND, IF ACCIDENTALLY DEPLOYED, CAN SERIOUSLY HURT OR KILL YOU. • DO NOT USE ELECTRICAL TEST EQUIPEMENT OR PROBING DEVICES. THEY CAN CAUSE ACCIDENTAL DEPLOYMENT. • NO SERVICEABLE PARTS INSIDE. DO NOT DISASSEMBLE. • PLACE AIRBAG UPRIGHT WHEN REMOVED. • FOLLOW SERVICE (SHOP) MANUAL INSTRUCTIONS CAREFULLY.	⚠ ATTENTION LE GONFLEUR DE COUSSIN D'AIR EST EXPLOSIBLE ET S'IL SE DEPLOIE ACCIDENTELLEMENT, IL RISQUE DE PROVOQUER DES BLESSURES GRAVES OU DE TUER. • NE PAS UTILISER DE MATERIEL D'ESSAI ELECTRIQUE NI DE SONDE. ILS POURRAIENT PROVOQUER UN DEPLOIEMENT ACCIDENTEL DU COUSSIN D'AIR. • IL N'Y A PAS DE PIECES REPARABLES A L'INTERIEUR. NE PAS DEMONTER. • QUAND ON RETIRE LE COUSSIN D'AIR, LE TENIR A LA VERTICALE. • SUIVRE ATTENTIVEMENT LES INSTRUCTIONS DU MANUEL D'ENTRETIEN.

(cont'd)

Warning/Caution Label Locations

(cont'd)

L: PRETENSIONER ELR CAUTION LABEL

⚠ WARNING
EXPROSIVE MATERIAL INSIDE
YOU CAN BE SERIOUSLY HURT OR BURNED.
- INSTALL RED SHORT CONNECTOR WHEN WIRE HARNESS IS DISCONNECTED.
- DO NOT TAMPER OR DISASSEMBLE. NO SERVICEABLE PARTS INSIDE.
- USE ONLY APPROVED ELECTRICAL TESTERS FOR CIRCUIT DIAGNOSIS.
- REFER TO SERVICE (SHOP) MANUAL FOR COMPLETE INSTRUCTIONS.

⚠ ATTENTION
MATERIEL EXPROSIF A L'INTERIEUR
VOUS POUVEZ SUBIR DES BLESSURES OU DES BRULURES GRAVES.
- METTRE LE CONNECTEUR ROUGE COURT EN PLACE QUAND LE FAISCEAU DE FILS EST DEBRANCHE.
- NE PAS MODIFIER OU DEMONTER. NE COMPREND AUCUNE PLECE INTERNE A ENTRETENIR.
- N'UTILISER QUE DES APPAREILS DE VERIFICATION APPROUVES POUR LE DIAGNOSTIC DU CIRCUIT.
- CONSULTER LE MANUEL D'ENTRETIEN POUR LES DIRECTIVES COMPLETES.

M: PRETENSIONER POWER SOURCE CAUTION LABEL

シートベルト プリテンショナー	取り外し、分解禁止、取り扱いはサービスマニュアル参照の事。
SEAT BELT TENSIONER	DO NOT TAMPER. REFER TO SERVICE (SHOP) MANUAL FOR COMPLETE INSTRUCTIONS.
ENROULEUR DE CEINTURE DE SECURITE	NE PAS MODIFIER. CONSULTER LE MANUEL D'ENTRETIEN POUR LES DIRECTIVES COMPLETES.

N: PRETENSIONER POWER SOURCE BAM LABEL (Except KY)

P/T PWR SOURCE-BGO
NIPPON KOKI, SHIRAKAWA JAPAN
HERSTELLUNGSJAHR: 1991
EINFÜHRER: HONDA DEUTSCHLAND GMBH/OFFENBACH
BAM PT,-0380
DER GASGENERATOR DARF NUR FÜR INSASSEN-RÜCKHALTESYSTEME MIT GURSTRAFFEREINHELTEN IN KRAFTFAHRZEUGE MONTIERT WERDEN.
DIE MONTAGE UND DEMONTAGE DES GASGENERATORS DARF NUR VON DAFÜR GESCHULTEM PERSONAL VORGENOMMEN WERDEN.

O: MONITOR NOTICE (KF, KG, KX, KE, KQ, KT, KU)

NOTICE SRS
- NO SERVICEABLE PARTS INSIDE.
- REFER TO SERVICE (SHOP) MANUAL FOR DETAILED INSTRUCTIONS.

お願い
- 分解しないでください。
- 取扱い、保管はサービスマニュアルを参照してください。

REMARQUE
- AUCUNE PIECE REPARABLE A L'INTERIEUR.
- POUR LES INSTRUCTIONS DETAILL'EES, SE REPORTER AU MANUEL DE REPARATIONS.

LET UP!
- GEEN ONDERDELEN BINNEN DEZE UNIT WAARAAN WERKZAAMHEDEN KUNNEN WORDEN VERRICHT.
- RAADPLEEG HET WERKPLAATSHANDBOEX VOOR NADERE AANWIJZINGEN.

ACHTUNG
- DIE INNENTILE BEDÜRFEN KEINER WARTUNG.
- AUSFÜHRLICHE ANWEISUNGEN SIND DEM WERKSTATTHANDBUCH ZU ENTNEHMEN.

(KS, KY)

NOTICE
- NO SERVICEABLE PARTS INSIDE.
- REFER TO SERVICE (SHOP) MANUAL FOR DETAILED INSTRUCTIONS.

お願い
- 分解しないでください。
- 取扱い、保管はホンダ サービス マニュアルを参照してください。

OBERVERA
- INGA REPARERBARA DELAR INVÄNDIGT.
- HANVISNING TILL SHOP MANUAL FÖR DETAIJERADE ANVISNINGAR.

HUOM!
- SISÄLL EI OLE HUOLLETTAVISSA OLEVIA OSIA.
- KATSO KORJAAMOKÄSIKIRJASTA TARKAT OHJEET.

ملاحظة
- لا توجد اجزاء يمكن صيانتها بالداخل.
- ارجع الى دليل الخدمة لمزيد من التوصيات.

Special Tools

Individual tool lists are located at the front of each section.

Specifications

Standards and Service Limits 3-2
Design Specifications.....3-15
Body Specifications.....3-18

Standards and Service Limits

Cylinder Head/Valve Train — Section 6

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	200 min^{-1} (rpm) and wide open throttle	Nominal Minimum Maximum variation	1,400 kPa (14.0 kg/cm^2, 199 psi) 1,000 kPa (10.0 kg/cm^2, 142 psi) 200 kPa (2.0 kg/cm^2, 28 psi)	
Cylinder head	Warpage Height		— 99.95—100.05 (3.935—3.939)	0.05 (0.002) —
Camshaft	End play Camshaft-to-holder oil clearance Total runout Cam lobe height	 ① IN EX ② IN EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.0020—0.0035) 0.03 (0.001) 40.118 (1.5794) 37.766 (1.4868) 40.005 (1.5750) 37.766 (1.4868)	0.15 (0.006) 0.10 (0.004) 0.04 (0.002) — — — —
Valve	Valve clearance Valve stem O.D. Stem-to-guide clearance	IN EX IN EX IN EX	0 (Hydraulic tappets, Auto-adjuster type) 0 (Hydraulic tappets, Auto-adjuster type) 5.48—5.49 (0.2157—0.2161) 5.45—5.46 (0.2146—0.2150) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003)	— — 5.45 (0.215) 5.42 (0.213) 0.08 (0.003) 0.11 (0.004)
Valve seat	Width Stem installed height	IN EX IN EX	1.25—1.55 (0.049—0.061) 1.25—1.55 (0.049—0.061) 46.935—47.425 (1.8478—1.8671) 47.885—48.375 (1.8852—1.9045)	2.0 (0.08) 2.0 (0.08) 47.625 (1.8750) 48.575 (1.9124)
Valve spring	Free length	IN EX	50.16 (1.9748)*1 50.17 (1.9752)*2 50.36 (1.9827)	— — —
Valve guide	I.D. Installed height	IN and EX IN and EX	5.51—5.53 (0.217—0.218) 15.75—16.25 (0.620—0.640)	5.55 (0.219) —
Rocker arm	Arm-to-shaft clearance		0.018—0.054 (0.0007—0.0021)	0.08 (0.003)

①: Except KQ, KY, KT
②: KQ, KY, KT
*1: NIHON HATSUJO manufactured valve spring
*2: CHUO HATSUJO manufactured valve spring

Unit of length: mm (in)

Engine Block — Section 7

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.003) max.	0.10 (0.004)
	Bore diameter	90.00—90.02 (3.543—3.544)	90.07 (3.546)
	Bore taper	—	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O. D. at 17.0 mm (0.67in) from bottom of skirt		
	No Letter (A)	89.980—89.990 (3.5425—3.5429)	89.970 (3.5421)
	B	89.970—89.980 (3.5421—3.5425)	89.960 (3.5417)
	Clearance in cylinder	0.02—0.04 (0.001—0.002)	0.08 (0.003)
	Groove width (for ring) Top	1.220—1.230 (0.0480—0.0484)	1.250 (0.0492)
	Second	1.220—1.230 (0.0480—0.0484)	1.250 (0.0492)
	Oil	2.805—2.820 (0.1104—0.1110)	2.85 (0.112)
Piston ring	Ring-to-groove clearance Top	0.035—0.060 (0.0014—0.0024)	0.13 (0.005)
	Second	0.030—0.055 (0.0012—0.0022)	0.13 (0.005)
	Ring end gap Top	0.25—0.40 (0.010—0.016)	0.70 (0.028)
	Second	0.40—0.55 (0.016—0.022)	0.85 (0.033)
	Oil	0.20—0.70 (0.008—0.028) *1	0.80 (0.031)
		0.20—0.50 (0.008—0.020) *2	0.80 (0.031)
Piston pin	O. D.	21.994—22.000 (0.8659—0.8661)	—
	Pin-to-piston clearance	0.012—0.024 (0.0005—0.0009)	—
Connecting rod	Pin-to-rod interference	0.013—0.032 (0.0005—0.0013)	—
	Small end bore diameter	21.968—21.981 (0.8649—0.8654)	—
	Large end bore diameter Nominal	57.0 (2.24)	—
	End play installed on crankshaft	0.15—0.30 (0.006—0.012)	—
Crankshaft	Main journal diameter	67.967—68.000 (2.6759—2.6772)	—
	Rod journal diameter	53.970—53.994 (2.1248—2.1257)	—
	Taper	0.005 (0.0002) max.	0.010 (0.0004)
	Out-of-round	0.004 (0.0002) max.	0.010 (0.0004)
	End play	0.10—0.29 (0.004—0.011)	0.45 (0.018)
	Total runout	0.020 (0.0008) max.	0.030 (0.0012)
Bearings	Main bearing-to-journal oil clearance	0.020—0.044 (0.0008—0.0017)	0.05 (0.002)
	Rod bearing-to-journal oil clearance	0.022—0.046 (0.0009—0.0018)	0.05 (0.002)

*1: RIKEN manufactured piston ring
*2: TEIKOKU PISTON RING manufactured piston ring

Engine Lubrication — Section 8

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US qt, Imp qt)	5.3 (5.6 , 4.7) for engine overhaul 4.5 (4.8 , 4.0) for oil change,including filter 4.0 (4.2 , 3.5) for oil change,except filter	
Oil pump	Inner-to-outer rotor radial clearance	0.04—0.16 (0.002—0.006)	0.20 (0.008)
	Housing-to-outer rotor radial clearance	0.10—0.18 (0.004—0.007)	0.20 (0.008)
	Housing-to-rotor axial clearance	0.02—0.07 (0.001—0.003)	0.12 (0.005)
Relief valve	Pressure setting at oil temperature 176°F (80°C)		
	kPa (kg/cm², psi) at idle	70 (0.7 , 10.0) min.	
	at 3,000 min⁻¹ (rpm)	350 (3.5 , 50) min.	

Standards and Service Limits

Cooling — Section 10

	MEASUREMENT	STANDARD (NEW)
Radiator	Coolant capacity ℓ (US gal, Imp gal) M/T (Including engine, heater, cooling line and reservoir) A/T Reservoir capacity: 0.65 ℓ (0.172 US gal, 0.143 Imp gal)	8.8 (2.32, 1.94) for overhaul 7.7 (2.03, 1.69) for coolant change 8.7 (2.30, 1.91) for overhaul 7.6 (2.01, 1.67) for coolant change
Radiator cap	Opening pressure kPa (kg/cm², psi)	95—125 (0.95—1.25, 13.5—18)
Thermostat	Start to open °F (°C) Fully open °F (°C) Valve lift at fully open	169—176 (76—80) 194 (90) 10 (0.4) min.
Radiator fan	Radiator fan control sensor "ON" temperature (LOW) °F (°C) Radiator fan control sensor "OFF" temperature (LOW) °F (°C) Radiator fan control sensor "ON" temperature (HIGH) °F (°C) Radiator fan control sensor "OFF" temperature (HIGH) °F (°C)	183 (84) 172 (78) 194 (90) 183 (84)

Fuel and Emissions — Section 11

	MEASUREMENT	STANDARD (NEW)
Pressure regulator	Pressure with regulator vacuum hose disconnected kPa (kg/cm², psi)	270—320 (2.7—3.2, 38—46)
Fuel tank	Capacity ℓ (US gal, Imp gal)	68 (18.0, 15.0)
Engine	Fast idle speed min⁻¹ (rpm) at 77 °F (25 °C)	1,500±200
	Idle speed min⁻¹ (rpm) (with headlight and cooling fan off)	M/T 650±50 (neutral) A/T 600±50 (N or P position)
	Idle CO %	With CATA: 0.1 max. Without CATA: 1.0±1.0

Clutch — Section 12

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Clutch pedal height to floor Stroke at pedal Total clutch pedal free play (include the pedal play) Pedal play Disengagement height to floor	193.0 (7.60) 139.0 (5.47) 9.0—15.0 (0.35—0.59) 1.0—7.0 (0.04—0.28) 90 (3.5) min.	— — — — —
Flywheel	Clutch surface runout	0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet depth Thickness	1.5 (0.06) min. 9.6—10.3 (0.38—0.41)	0.5 (0.02) 6.8 (0.27)
Pressure plate	Warpage	0.03 (0.001) max.	0.15 (0.006)

Unit of length: mm (in)

Manual Transmission — Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)	2.6 (2.7 , 2.3) for overhaul 2.3 (2.4 , 2.0) for oil change	
Mainshaft	End play Diameter of bearing contact area Clutch housing side A Transmission housing side C Transmission cover side D 3rd gear B Runout	0.183—0.375 (0.0072—0.0148) 27.977—27.990 (1.1015—1.1020) 30.987—31.000 (1.2200—1.2205) 27.987—28.000 (1.1018—1.1024) 37.989—38.000 (1.4956—1.4961) 0.02 (0.001) max.	0.525 (0.0207) 27.930 (1.0996) 30.940 (1.2181) 27.937 (1.0999) 37.935 (1.4935) 0.05 (0.002)
Countershaft	Diameter of bearing contact area Clutch housing side A Transmission housing side B Transmission cover side C Runout	 33.000—33.015 (1.2992—1.2998) 31.975—31.988 (1.2589—1.2594) 27.987—28.000 (1.1018—1.1024) 0.02 (0.001) max.	 32.950 (1.2972) 31.928 (1.2570) 27.937 (1.0999) 0.05 (0.002)
Reverse gear shaft	Diameter of bearing contact area	19.989—20.000 (0.7870—0.7874)	19.93 (0.785)
Reverse drive gear	I.D. Thickness	25.007—25.020 (0.9845—0.9850) 26.45—26.50 (1.041—1.043)	25.078 (0.9873) 26.38 (1.039)
Mainshaft 3rd gear	I.D. Thickness End play (when tightening by specified torque)	44.009—44.025 (1.7326—1.7333) 31.39—31.47 (1.236—1.239) 0.06—0.19 (0.002—0.007)	44.080 (1.7354) 31.32 (1.233) 0.30 (0.012)
Mainshaft 4th gear	I.D. Thickness End play (when tightening by specified torque)	44.009—44.025 (1.7326—1.7333) 29.39—29.47 (1.157—1.160) 0.06—0.19 (0.002—0.007)	44.080 (1.7354) 29.32 (1.154) 0.30 (0.012)
Mainshaft 5th gear	I.D. Thickness End play (when tightening by specified torque)	44.009—44.025 (1.7326—1.7333) 29.39—29.47 (1.157—1.160) 0.06—0.19 (0.002—0.007)	44.080 (1.7354) 29.32 (1.154) 0.30 (0.012)
Distance collar (4th, 5th gear)	I.D. Diameter of needle bearing contact area Thickess of needle bearing contact area	30.992—31.002 (1.2202—1.2205) 37.989—38.000 (1.4956—1.4961) 29.56—29.61 (1.164—1.166)	31.050 (1.2224) 37.940 (1.4937) 29.54 (1.163)
Countershaft 1st gear	I.D. Thickness End play (when tightening by specified torque)	53.010—53.029 (2.0870—2.0878) 35.92—36.00 (1.414—1.417) 0.04—0.10 (0.002—0.004)	53.081 (2.0898) 35.85 (1.411) Adjust
Countershaft 2nd gear	I.D. Thickness End play (when tightening by specified torque)	53.010—53.029 (2.0870—2.0878) 35.92—36.00 (1.414—1.417) 0.04—0.10 (0.002—0.004)	53.081 (2.0898) 35.85 (1.411) Adjust

(cont'd)

Standards and Service Limits

—Manual Transmission (cont'd) — Sectoin 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Spacer collar (countershaft 2nd gear)	I. D. O. D. Thickness A B	37.950—37.960 (1.4941—1.4945) 46.989—47.000 (1.8500—1.8504) 36.07—36.09 (1.420—1.421) 36.03—36.05 (1.419—1.419)	38.008 (1.4964) 46.940 (1.8480) Adjust Adjust
Countershaft reverse gear	O. D. (bearing contact area) Thickness	46.989—47.000 (1.8500—1.8504) 50.45—50.55 (1.986—1.990)	46.94 (1.848) 50.38 (1.983)
Synchro ring	Ring-to-gear clearance (ring pushed against gear)	0.85—1.10 (0.033—0.043)	0.4 (0.02)
Double cone synchro ring	Clearance (ring pushed against gear) Outer synchro ring-to-gear Synchro cone-to-gear Outer synchro ring-to-synchro cone	 0.95—1.68 (0.037—0.066) 0.5—1.0 (0.02—0.04) 0.5—1.0 (0.02—0.04)	 0.6 (0.02) 0.3 (0.01) 0.3 (0.01)
Shift fork 1st/2nd 3rd/4th and 5th	Finger thickness Finger-to-synchro sleeve clearance	7.4—7.6 (0.29—0.30) 0.35—0.65 (0.014—0.026)	— 1.00 (0.039)
Reverse shift fork	Finger thichness Finger-to-reverse synchro sleeve clearance Groove width Fork-to-reverse shift holder clearance	6.4—6.6 (0.25—0.26) 0.35—0.65 (0.014—0.026) 13.20—13.30 (0.520—0.524) 0.20—0.50 (0.008—0.020)	— 1.00 (0.039) — 0.8 (0.03)
Shift fork shaft	Fork-to-shift piece clearance Groove width of the shift piece contact point	0.25—0.55 (0.010—0.022) 12.20—12.40 (0.480—0.488)	0.85 (0.033) —
Shift arm	Diameter (at the contact point with the change piece) Arm-to-change piece clearance Diameter (at the contact point with the shift piece) Arm-to-shift piece clearance	7.90—8.00 (0.311—0.315) 0.10—0.30 (0.004—0.012) 7.90—8.00 (0.311—0.315) 0.10—0.30 (0.004—0.012)	— 0.55 (0.022) — 0.55 (0.022)
Change piece	Groove width of the shift arm contact point	8.10—8.20 (0.319—0.323)	—
Shift piece	Diameter (at the contact point with the shift fork shaft)	11.85—11.95 (0.467—0.470)	—
Reverse shift holder	Diameter (at the contact point with the reverse shift fork) Diameter (at the contact point with the 5th/reverse shift fork shaft) Holder-to-5th/reverse shift fork clearance Holder-to-reverse shift fork clearance	12.80—13.00 (0.504—0.512) 12.80—13.00 (0.504—0.512) 0.20—0.60 (0.008—0.024) 0.20—0.50 (0.008—0.020)	— — 0.8 (0.03) 0.8 (0.03)
Secondary gear	Backlash Preload (starting torque) N·m (kg-m, lb-ft) Diameter of bearing contact are Clutch housing side Transmission housing side Diameter of oil seal contact area Clutch housing side Transmission housing side	0.061—0.121 (0.0024—0.0048) 1.4—2.6 (0.14—0.26 , 1.0—1.9) 55.002—55.021 (2.1654—2.1662) 45.002—45.018 (1.7717—1.7724) 54.894—54.940 (2.1612—2.1630) 44.911—44.950 (1.7681—1.7697)	— Adjust — — — —
Extension shaft	Diameter of oil seal contact area	37.438—37.500 (1.4739—1.4764)	—
Oil pump	Clutch housing-to-outer rotor clearance Inner-to-outer rotor clearance Clutch housing-to-rotor axial clearance	0.03—0.13 (0.001—0.005) 0.14 (0.006) 0.10—0.20 (0.004—0.008)	0.18 (0.007) 0.2 (0.01) 0.22 (0.009)

Unit of length: mm (in)

Automatic Transmission — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil fluid	Capacity ℓ (US qt, Imp qt)	8.7 (9.2 , 7.7) for overhaul 3.3 (3.5 , 2.9) for oil change	
Hydraulic pressure kPa (kg/cm², psi)	Line pressure at 2,000 min⁻¹ (rpm) ([N] or [P] position)	800—860 (8.0—8.6 , 114—122)	750 (7.5 , 107)
	1st clutch pressure at 2,000 min⁻¹ (rpm) ([D4] , [D3] or [1] position)		
	2nd clutch pressure at 2,000 min⁻¹ (rpm) ([D4] position)	400 (4.0 , 57) throttle fully closed ⏐ 860 (8.6 , 122) throttle more than 1/4 opened	380 (3.8 , 54) throttle fully closed ⏐ 750 (7.5 , 107) throttle more than 1/4 opened
	3rd clutch pressure at 2,000 min⁻¹ (rpm) ([D4] position)		
	4th clutch pressure at 2,000 min⁻¹ (rpm) ([D4] position)		
	1st-hold clutch pressure at 2,000 min⁻¹ (rpm) ([1] or [2] position)	800—860 (8.0—8.6 , 114—122)	750 (7.5 , 107)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) ([1] or [2] position)		
	Reverse clutch pressure at 2,000 min⁻¹ (rpm) ([R] position)	1,190—1,270 (11.9—12.7 , 169—181)	1,150 (11.5 , 164)
	Throttle B pressure Throttle fully closed Throttle fully open	 0 — 15 (0.15 , 2.1) 590—640 (5.9—6.4 , 84—91)	 — —
Stall speed min⁻¹ (rpm)	Check with car on level ground	2,000	1,850—2,150
Clutch	Clutch initial clearance 1st-hold 1st 2nd, 3rd 4th Reverse	 0.70—0.90 (0.028—0.035) 0.65—0.85 (0.026—0.033) 0.60—0.80 (0.024—0.031) 0.50—0.70 (0.020—0.028) 0.75—0.95 (0.030—0.037)	 — — — — —
	Clutch return spring free length 1st-hold, 1st, 2nd, 3rd, 4th Reverse	 33.70 (1.327) 30.30 (1.193)	 31.70 (1.248) 28.30 (1.114)
	Clutch disc thickness 1st-hold, 1st, 2nd, Reverse 3rd, 4th	 1.88—2.00 (0.074—0.079) 2.28—2.40 (0.090—0.094)	 Until grooves worn out. Until grooves worn out.
	Clutch plate thickness 1st-hold, 1st, 2nd, Reverse 3rd, 4th	 1.95—2.05 (0.077—0.081) 2.55—2.65 (0.100—0.104)	 Discoloration ↕
	Clutch end plate thickness (1st, 2nd, 3rd, 4th) Mark 1 Mark 2 Mark 3 Mark 4 Mark 5 Mark 6 Mark 7 Mark 8 Mark 9	 2.05—2.10 (0.081—0.083) 2.15—2.20 (0.085—0.087) 2.25—2.30 (0.089—0.091) 2.35—2.40 (0.093—0.094) 2.45—2.50 (0.096—0.098) 2.55—2.60 (0.100—0.102) 2.65—2.70 (0.104—0.106) 2.75—2.80 (0.108—0.110) 2.85—2.90 (0.112—0.114)	
	Clutch end plate thickness (1st-hold) Mark L1 Mark L2 Mark L3 Mark L4 Mark L5	 2.05—2.10 (0.081—0.083) 2.15—2.20 (0.085—0.087) 2.25—2.30 (0.089—0.091) 2.35—2.40 (0.093—0.094) 2.45—2.50 (0.096—0.098)	 ↕ Discoloration

(cont'd)

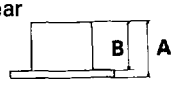
Standards and Service Limits

—Automatic Transmission (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch	Clutch end plate thickness (1st-hold) Mark L6	2.55—2.60 (0.100—0.102)	Discoloration
	Mark L7	2.65—2.70 (0.104—0.106)	↕
	Mark L8	2.75—2.80 (0.108—0.110)	↕
	Mark L9	2.85—2.90 (0.112—0.114)	↕
	Clutch end plate thickness (Reverse) Mark R1	4.05—4.10 (0.159—0.161)	↕
	Mark R2	4.15—4.20 (0.163—0.165)	↕
	Mark R3	4.25—4.30 (0.167—0.169)	↕
	Mark R4	4.35—4.40 (0.171—0.173)	↕
	Mark R5	4.45—4.50 (0.175—0.177)	↕
	Mark R6	4.55—4.60 (0.179—0.181)	↕
	Mark R7	4.65—4.70 (0.183—0.185)	↕
	Mark R8	4.75—4.80 (0.187—0.189)	↕
	Mark R9	4.85—4.90 (0.191—0.193)	Discoloration
Valve body	Stator shaft needle bearing contact I.D. (torque converter side)	28.000—28.021 (1.1024—1.1032)	Wear or damage
	Startor shaft needle bearing contact I.D. (oil pump side)	31.000—31.013 (1.2205—1.2210)	—
	Oil pump driven gear I.D.	14.016—14.034 (0.5518—0.5525)	Wear or damage
	Oil pump driven gear shaft O.D.	13.980—13.990 (0.5504—0.5508)	Wear or damage
	Oil pump gear side clearance	0.03—0.05 (0.001—0.002)	0.07 (0.003)
	Oil pump gear-to-body clearance Drive	0.210—0.265 (0.0083—0.0104)	—
	Driven	0.070—0.125 (0.0028—0.0049)	—
Regulator valve body	Sealing ring contact I.D.	37.000—37.025 (1.4567—1.4577)	37.05 (1.459)
Accumulator body	Sealing ring contact I.D.	42.000—42.030 (1.6535—1.6547)	42.05 (1.656)
Shifting device and parking brake control	Parking brake cone	—	Wear or other defect
	Paring brake pawl	—	↕
	Parking gear	—	Wear or other defect
Transmission	Mainshaft reverse gear distance collar length	25.95—26.05 (1.022—1.026)	Wear or damage
	2nd clutch thrust washer 29 mm thickness	3.95—4.00 (0.156—0.157)	↕
	Mainshaft 2nd gear collar length A	35.00—35.05 (1.378—1.380)	↕
	B	31.06—31.09 (1.223—1.224)	↕
			↕
	Countershaft reverse gear thrust washer thickness	3.95—4.05 (0.156—0.159)	↕
	Countershaft reverse gear collar length A	26.95—27.05 (1.061—1.065)	↕
	B	23.05—23.09 (0.907—0.909)	↕
	Reverse clutch distance collar length	35.45—35.55 (1.396—1.400)	Wear or damage
	Thrust washer (45.5 x 60) thickness (countershaft 2nd gear/parking gear)	1.27—1.30 (0.050—0.051)	—
		1.32—1.35 (0.052—0.053)	—
		1.37—1.40 (0.054—0.055)	—
		1.42—1.45 (0.056—0.057)	—
		1.47—1.50 (0.058—0.059)	—
		1.52—1.55 (0.060—0.061)	—
		1.57—1.60 (0.062—0.063)	—
		1.62—1.65 (0.064—0.065)	—
		1.67—1.70 (0.066—0.067)	—
		1.72—1.75 (0.068—0.069)	—
		1.77—1.80 (0.070—0.071)	—
		1.82—1.85 (0.072—0.073)	—
		1.87—1.90 (0.074—0.075)	—

Automatic Transmission — Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	*Mainshaft 1st gear thrust washer thickness*	3.45—3.55 (0.136—0.140)	Wear or damage
	Mainshaft 1st gear distance collar length	34.05—34.08 (1.341—1.342)	↕
	Mainshaft 1st gear collar length A	33.90—33.97 (1.335—1.337)	
	B A	30.05—30.10 (1.183—1.185)	Wear or damage
	4th clutch collar	9.67—9.70 (0.381—0.382)	—
		9.72—9.75 (0.383—0.384)	—
		9.77—9.80 (0.385—0.386)	—
		9.82—9.85 (0.387—0.388)	—
		9.87—9.90 (0.389—0.390)	—
		9.92—9.95 (0.391—0.392)	—
		9.97—10.00 (0.393—0.394)	—
	Countershaft 2nd gear collar length	35.95—36.00 (1.415—1.417)	Wear or damage
	Countershaft 1st gear A	27.95—28.05 (1.100—1.104)	↕
	collar length  B A B	23.50—23.55 (0.925—0.927)	Wear or damage
	Thrust washer (38.8 x 47) thickness	2.97—3.00 (0.117—0.118)	—
	(1st-hold clutch front side)	3.02—3.05 (0.119—0.120)	—
		3.07—3.10 (0.121—0.122)	—
		3.12—3.15 (0.123—0.124)	—
		3.17—3.20 (0.125—0.126)	—
		3.22—3.25 (0.127—0.128)	—
		3.27—3.30 (0.129—0.130)	—
		3.32—3.35 (0.131—0.132)	—
		3.37—3.40 (0.133—0.134)	—
		3.42—3.45 (0.135—0.136)	—
		3.47—3.50 (0.137—0.138)	—
	1st-hold clutch distance collar length	68.95—69.05 (2.715—2.718)	Wear or damage
	Countershaft 3rd gear A	28.95—29.05 (1.140—1.144)	↕
	collar length B A B	24.02—24.05 (0.946—0.947)	
	Diameter of one-way clutch contact area		
	Countershaft 1st gear I. D.	95.764—95.790 (3.7702—3.7713)	
	Countershaft 2nd gear I. D.	86.487—86.513 (3.4050—3.4060)	
	One-way clutch hub O. D.	79.107—79.120 (3.1144—3.1150)	
	Parking gear one-way clutch contact area O. D.	69.833—69.846 (2.7493—2.7498)	
	Feed pipe A O. D.	6.97—6.98 (0.274—0.275)	
	Feed pipe B O. D.	11.47—11.48 (0.452—0.452)	Wear or damage
	Mainshaft and countershaft bushings, 7.0 I. D.	7.018—7.030 (0.2763—0.2768)	7.045 (0.2774)
	Mainshaft and countershaft bushings, 11.5 I.D.	11.500—11.518 (0.4528—0.4535)	11.53 (0.454)
	Mainshaft sealing ring 37 mm thickness	1.980—1.995 (0.0780—0.0785)	1.80 (0.071)
	Countershaft sealing ring 42 mm thickness	1.980—1.995 (0.0780—0.0785)	1.80 (0.071)
	Mainshaft sealing ring groove width	2.025—2.060 (0.0797—0.0811)	2.08 (0.082)
	Countershaft sealing ring groove width	2.025—2.060 (0.0797—0.0811)	2.08 (0.082)
	Diameter of needle bearing contact area		
	Mainshaft-stator shaft	24.980—24.993 (0.9835—0.9840)	Wear or damage
	Mainshaft 3rd gear	53.968—53.984 (2.1247—2.1254)	↕
	Mainshaft 1st gear collar	34.975—34.991 (1.3770—1.3776)	
	Mainshaft 1st gear distance collar	34.975—34.991 (1.3770—1.3776)	
	Mainshaft 2nd gear collar	34.975—34.991 (1.3770—1.3776)	
	Countershaft-torque converter housing	38.505—38.515 (1.5159—1.5163)	
	Countershaft 3rd gear collar	47.975—47.991 (1.8888—1.8894)	
	Countershaft 1st gear collar	38.975—38.991 (1.5344—1.5351)	
	Countershaft 2nd gear collar	38.975—38.991 (1.5344—1.5351)	
	Countershaft reverse gear collar	33.975—33.991 (1.3376—1.3382)	
	Reverse idler gear shaft	13.990—14.000 (0.5508—0.5512)	Wear or damage

(cont'd)

Standards and Service Limits

—Automatic Transmission (cont'd) — Sectoin 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	I. D.		
	Mainshaft 4th gear	59.000—59.016 (2.3228—2.3235)	Wear or damage
	Mainshaft 2nd gear	40.000—40.016 (1.5748—1.5754)	↑
	Mainshaft 1st gear	39.000—39.016 (1.5354—1.5361)	↓
	Countershaft 3rd gear	54.000—54.016 (2.1260—2.1266)	
	Countershaft 2nd gear	44.020—44.036 (1.7331—1.7337)	
	Countershaft 1st gear	44.000—44.016 (1.7323—1.7329)	
	Countershaft reverse gear	39.000—39.016 (1.5354—1.5361)	
	Reverse idler gear	18.007—18.020 (0.7089—0.7094)	Wear or damage
	End play		
	Mainshaft 4th gear	0.03—0.18 (0.001—0.007)	—
	1st/4th clutch	0 — 0.08 (0.003)	Adjust with a washer
	Mainshaft 2nd gear	0.06—0.16 (0.002—0.006)	—
	Mainshaft 1st gear	0.10—0.25 (0.004—0.010)	—
	Countershaft 3rd gear	0.02—0.12 (0.001—0.005)	—
	Countershaft 4th gear	0 — 0.08 (0.003)	Adjust with a washer
	Countershaft 2nd gear	0.07—0.15 (0.003—0.006)	Adjust with a washer
	Countershaft reverse gear	0.05—0.16 (0.002—0.006)	—
	Reverse idler gear	0.03—0.30 (0.001—0.012)	—
	Secondary gear shaft taper roller bearing preload (starting torque) N·m (kg-m, lb-ft)	3.5—4.5 (0.35—0.45 , 2.5—3.3)	—
	Thrust washer 90 mm thickness (torque converter housing side)	0.99—1.01 (0.039—0.040)	Wear or damage
	Thrust shim 75 mm thickness	1.56—1.58 (0.061—0.062) 1.590—1.610 (0.0626—0.0634) 1.62—1.64 (0.064—0.065) 1.65—1.67 (0.065—0.066) 1.68—1.70 (0.066—0.067) 1.71—1.73 (0.067—0.068) 1.740—1.760 (0.0685—0.0693) 1.770—1.790 (0.0697—0.0705) 1.80—1.82 (0.071—0.072) 1.83—1.85 (0.072—0.073) 1.86—1.88 (0.073—0.074) 1.89—1.91 (0.074—0.075) 1.920—1.940 (0.0756—0.0764) 1.95—1.97 (0.077—0.078) 1.98—2.00 (0.078—0.079) 2.01—2.03 (0.079—0.080) 2.04—2.06 (0.080—0.081) 2.07—2.09 (0.081—0.082) 2.100—2.120 (0.0827—0.0835) 2.13—2.15 (0.084—0.085) 2.16—2.18 (0.085—0.086) 2.19—2.21 (0.086—0.087) 2.22—2.24 (0.087—0.088) 2.250—2.270 (0.0886—0.0894) 2.28—2.30 (0.090—0.091) 2.31—2.33 (0.091—0.092) 2.34—2.36 (0.092—0.093) 2.37—2.39 (0.093—0.094) 2.40—2.42 (0.094—0.095) 2.430—2.450 (0.0957—0.0965)	

Automatic Transmission — Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW) Wire Dia.	O. D.	Free Length	No. of coils
Spring	One-way ball spring	0.29 (0.011)	4.00 (0.157)	14.00 (0.551)	13.0
	Secondary spring	2.30 (0.091)	20.20 (0.795)	21.099 (0.8307)	4.0
	4-3 kick down valve spring	1.10 (0.043)	7.10 (0.280)	51.30 (2.020)	22.5
	Regulator valve spring A	1.80 (0.071)	14.70 (0.579)	86.50 (3.406)	16.5
	Regulator valve spring B	1.70 (0.067)	6.00 (0.236) *	43.00 (1.693)	13.5
	Stator reacting spring	6.50 (0.256)	26.40 (1.039)*	30.30 (1.193)	1.9
	Modulator valve spring	1.50 (0.059)	9.40 (0.370)	30.60 (1.205)	9.9
		1.40 (0.055)	9.40 (0.370)	33.00 (1.299)	10.5
	Torque converter check valve spring	1.10 (0.043)	8.40 (0.331)	41.80 (1.646)	15.7
	Relief valve spring	0.90 (0.035)	8.40 (0.331)	56.50 (2.224)	22.4
	Cooler relief valve spring	1.10 (0.043)	8.40 (0.331)	46.80 (1.843)	17.0
	3-4 orifice control valve spring	1.00 (0.039)	6.60 (0.260)	49.60 (1.953)	26.8
	Throttle valve spring	1.00 (0.039)	7.60 (0.299)	28.30 (1.114)	12.1
	1-2 shift valve spring	0.90 (0.035)	7.60 (0.299)	55.50 (2.185)	24.0
	2-3, 3-4 shift valve spring	0.80 (0.031)	6.60 (0.260)	42.10 (1.657)	22.0
	4-3 shift timing valve apring	0.70 (0.028)	7.10 (0.280)	35.00 (1.378)	20.4
	1st accumulator spring	2.90 (0.114)	18.00 (0.709)	75.50 (2.972)	11.5
	4th accumulator spring	2.80 (0.110)	16.50 (0.650)	80.80 (3.181)	14.6
	2nd accumulator spring A	3.60 (0.142)	22.0 (0.87)	96.70 (3.807)	13.0
	2nd accumulator spring B	2.00 (0.079)	6.60 (0.260) *	80.00 (3.150)	19.6
	1st-hold accumulator spring	4.00 (0.157)	25.00 (0.984)	68.40 (2.693)	7.2
	3rd accumulator spring	3.20 (0.126)	19.00 (0.748)	78.40 (3.087)	11.1
	Reverse accumulator spring	3.50 (0.138)	18.60 (0.732)	115.50 (4.547)	19.0
	Lock-up shift valve spring	0.90 (0.035)	7.60 (0.299)	73.70 (2.902)	32.0
	Lock-up timing valve spring	0.80 (0.031)	6.60 (0.260)	61.20 (2.409)	38.5
	Lock-up control valve spring	0.70 (0.028)	6.60 (0.260)	36.30 (1.429)	14.1
		0.70 (0.028)	6.60 (0.260)	37.50 (1.476)	24.6
		0.70 (0.028)	6.60 (0.260)	38.50 (1.516)	24.6
	CPC valve spring	1.00 (0.039)	6.80 (0.268)	34.30 (1.350)	14.2

* : I. D.

Standards and Service Limits

Differential — Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Differential oil	Capacity ℓ (US qt, imp qt)	1.10 (1.16 , 0.97) for overhaul 1.05 (1.11 , 0.92) for oil change	
Differential carrier	Pinion shaft contact area I. D. Carrier-to-pinion shaft clearance Drivershaft and intermediate shaft contact area I. D. Carrier-to-driveshaft clearance Carrier-to-intermediate shaft clearance	20.000—20.021 (0.7874—0.7882) 0.013—0.050 (0.0005—0.0020) 32.025—32.045 (1.2608—1.2616) 0.045—0.086 (0.0018—0.0034) 0.080—0.116 (0.0031—0.0046)	— 0.10 (0.004) — 0.120 (0.0047) 0.120 (0.0047)
Differential pinion gear	Backlash I. D. Pinion gear-to-shaft clearance	0.05—0.15 (0.002—0.006) 20.042—20.066 (0.7891—0.7900) 0.055—0.095 (0.0022—0.0037)	0.30 (0.012) — 0.15 (0.006)
Drive pinion gear and ring gear	Backlash At inspection hole At ring gear circumference	0.06—0.14 (0.002—0.006) 0.08—0.18 (0.003—0.007)	Adjust Adjust
Drive pinion	Preload (starting toque) N·m (kg-m, lb-ft) M/T New bearing Reused bearing A/T New bearing Reused bearing	 0.93—1.57 (0.093—0.157 , 0.7—1.1) 0.72—1.21 (0.072—0.121 , 0.5—0.9) 1.86—2.54 (0.186—0.254 , 1.3—1.8) 1.45—1.95 (0.145—0.195 , 1.0—1.4)	Adjust
Drive pinion and differential unit	Total preload (starting torque) N·m (kg-m, lb-ft) M/T ① ② ③ ④ A/T ① ② ③ ④	 Tp + 0.55—0.78 (0.055—0.078 , 0.4—0.6) Tp + 0.55—0.78 (0.055—0.078 , 0.4—0.6) Tp + 0.65—0.79 (0.065—0.079 , 0.5—0.6) Tp + 0.65—0.79 (0.065—0.079 , 0.5—0.6) Tp + 1.06—1.28 (0.106—0.128 , 0.8—0.9) Tp + 1.06—1.28 (0.106—0.128 , 0.8—0.9) Tp + 0.96—1.09 (0.096—0.109 , 0.7—0.8) Tp + 0.96—1.09 (0.096—0.109 , 0.7—0.8)	Adjust

①: Pinion and ring gear bearings are new
②: Ring gear bearing is new
③: Pinion bearing is new
④: Pinion and ring gear bearings are reused
Tp: Actual measurement of drive pinion preload (Tp should be within the standard spec.)

Steering — Section 17

	MEASUREMENT	STANDARD (NEW)
Steering wheel	Play at steering wheel circumference Starting load at steering wheel circumference N (kg, lbs) Engine stopped Engine running	0 — 10 (0.4) 200 (20, 44) max. 30 (3, 6.6) max.
Gearbox	Angle of rack-guide-screw loosened from locked position	20° $^{+5°}_{0°}$
Pump	Pump pressure with shut-off valve closed kPa (kg/cm², psi)	8,000—9,000 (80—90 , 1,138—1,280)
Power steering fluid	Fluid capacity Reservoir ℓ (US qt, Imp qt) System	0.5 (0.5 , 0.4) 1.7 (1.8 , 1.5)
Power steering belt *	Deflection with 100 N (10 kg, 22 lbs) between pulleys	11.5—13.5 (0.45—0.53) with used belt 7.5—9.5 (0.30—0.37) with new belt
	Belt tension N (kg, lbs) Measured with belt tension gauge	350—550 (35—55, 77—121) with used belt 700—900 (70—90, 154—198) with new belt

* When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Unit of length: mm (in)

Suspension — Section 18

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Camber	Front	0° 00′ ±1°, 0°15′ ±1° *1	—
		Rear	−0°20′±1°, −0°5′ ±1° *1	—
	Caster	Front	3°45′ ±1°, 3°30′ ±1° *1	—
	Total toe	Front	Out 1.0 (0.04) ±2.0 (0.08)	—
		Rear	In 2.0 (0.08) ±2.0 (0.08)	—
	Front wheel turning angle			
		Inward wheel	44°±2°	—
			40°±2° *2	—
		Outward wheel	35°	—
			33° *2	—
	Side slip	Front	Out 1.0 (0.04) ±2.0 (0.08)	—
Wheel	Rim runout	Axial	0−0.7 (0−0.03)	2.0 (0.08)
		Radial	0−0.7 (0−0.03)	1.5 (0.06)
Wheel bearing	End play	Front	0−0.05 (0−0.002)	—
		Rear	0−0.05 (0−0.002)	—

*1: KY only *2: KF, KG, KX, KE, KS

Brake — Section 19

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever (LHD)	Play in stroke at 200 N (20 kg, 44 lbs) lever force		To be locked when pulled 8−12 notches	—
Parking brake pedal (RHD)	Play in stroke at 300 N (30 kg, 66 lbs) pedal force		To be locked when pulled 6−8 notches	—
Foot brake pedal	Pedal height (with floor mat removed)		LHD: 213 (8.39) RHD: 210 (8.27)	— —
	Free play		1−5 (1/16−13/64)	—
Master cylinder	Piston-to-pushrod clearance		0−0.2 (0−0.008)	—
Disc brake	Disc thickness	Front	23.0 (0.91) 28.0 (1.10) *1	21.0 (0.83) 26.0 (1.02) *1
		Rear	9.0 (0.35)	7.5 (0.30)
	Disc runout	Front	—	0.10 (0.004)
		Rear	—	0.10 (0.004)
	Disc parallelism	Front and rear	—	0.015 (0.0006)
	Pad thickness	Front	11.0 (0.43)	1.6 (0.06)
		Rear	9.0 (0.35)	1.6 (0.06)
Parking brake drum*2	I. D.	Rear	170.0 (6.69)	171.0 (6.73)
	Lining thickness	Rear	2.5 (0.10)	1.0 (0.04)
Brake booster	Characteristics at 200 N (20 kg, 44 lbs) pedal force		Line pressure kPa (kg/cm², psi)	

Vacuum \ Type	LHD	RHD
0 mm (0 in) Hg	700 (7.0 , 100) min.	820 (8.2 , 117) min.
300 mm (11.8 in) Hg	6,230 (62.3 , 886) min.	6,190 (61.9 , 880) min.
500 mm (19.7 in) Hg	9,920 (99.2 , 1,411) min.	9,780 (97.8 , 1,391) min.

*1: Dual pot caliper type *2: Rear disc brake with drum parking brake type

Standards and Service Limits

Air Conditioning — Section 22

	MEASUREMENT	STANDARD (NEW)
Air conditioning system	Lubricant type: ND-OIL8 P/N38899-PR7-003 (For Refrigerant HFC-134a (R-134a))	
	Lubricant capacity mℓ (fl oz, Imp oz) Condenser	30.0 (1.01 , 1.06)
	Evaporator	60.0 (2.03 , 2.11)
	Line or hose	10.0 (1/3, 0.35)
	Reservoir	10.0 (1/3, 0.35)
Compressor	Lubricant type: ND-OIL8 P/N38899-PR7-003 (For Refrigerant HFC-134a (R-134a))	
	Lubricant capacity mℓ (fl oz, Imp oz)	140 (4 2/3, 4.9)
	Coil resistance at 68 °F (20 °C) Ω	3.4—3.8
	Pulley-to-pressure plate clearance	0.5 (0.02) ±0.15 (0.006)
Compressor belt*	Deflection with 100 N (10 kg, 22 lbs) between pulleys	8.0—10.0 (0.31—0.39) with used belt 5.0—6.5 (0.20—0.26) with new belt
	Belt tension N (kg, lbs) Measured with belt tension gauge	400—600 (40—60, 88—132) with used belt 800—1,000 (80—100, 176—220) with new belt

* When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Electrical — Section 23

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ignition coil	Rated voltage V Primary winding resistance at 77 °F (25 °C) Ω	12 1.0±10%	
Spark Plug	Type Electrode gap	Refer to section 23 (Base manual Code No. 62SP000) 1.00—1.10 (0.039—0.043)	1.3 (0.05) *1
Ignition timing	At idling ° BTDC	15±2 (Red)	
Alternator belt*2	Deflection with 100 N (10 kg, 22 lbs) between pulleys	9.5—11.5 (0.37—0.45) with used belt 5.5—7.5 (0.22—0.30) with new belt	
	Belt tension N (kg, lbs) Measured with belt tension gauge	350—550 (35—55, 77—121) with used belt 750—900 (75—90, 165—198) with new belt	
Alternator	Output A at 13.5 V, hot and 6,000 alternator min^{-1} (rpm) Brush length	110 10.5 (0.41)	— 3.5 (0.14)
Starting motor (MITUBISHI)	Type/Output kW Commutator mica depth Commutator runout Commutator O. D. Brush length Brush spring tension N (kg, lbs)	Reduction, Permanent magnet/2.0 0.5—0.8 (0.02—0.03) 0 — 0.05 (0.002) 31.90—32.10 (1.256—1.264) 18.0 (0.71) 29.7—36.3 (2.97—3.63, 6.55—8.00)	— 0.20 (0.008) 0.10 (0.004) 31.5 (1.24) 11.0 (0.43) —

*1: Do not adjust the electrode gap, replace spark plug if it is out of spec.
*2: When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Design Specifications

specs

	ITEM		METRIC	ENGLISH	NOTES
DIMENSIONS	Overall Length	Except KY	4,885 mm	192.3 in	
		KY	4,890 mm	192.5 in	
	Overall Width		1,810 mm	71.3 in	
	Overall Height	Except KY	1,370 mm	53.9 in	
		KY	1,375 mm	54.1 in	
	Wheelbase		2,830 mm	111.4 in	
	Track Front/Rear	Except KY	1,550/1,540 mm	61.0/60.6 in	
		KY	1,545/1,535 mm	60.8/60.4 in	
	Seating Capacity		Five		
WEIGHT	Curb Weight	M/T	1,580 kg	3,483 lbs	
		A/T European type	1,600 kg	3,527 lbs	
		KQ	1,585 kg	3,494 lbs	
		KY	1,595 kg	3,516 lbs	
		KU	1,560 kg	3,439 lbs	
	Weight Distribution Front/Rear	M/T	960/620 kg	2,116/1,367 lbs	
		A/T European type	975/625 kg	2,149/1,378 lbs	
		KQ	960/625 kg	2,116/1,378 lbs	
		KY	965/630 kg	2,127/1,389 lbs	
	Max. Permissible Weight (for European)		2,150 kg	4,740 lbs	
	Max. Permissible Axle Weight (for European) Front/Rear		1,100/1,090 kg	2,425/2,403 lbs	
	Max. Loaded Vehicle Weight (ADR)		1,998 kg	4,405 lbs	
ENGINE	Type		Water cooled, 4-stroke SOHC gasoline engine		
	Cylinder Arrangement		90° V6-cylinder		
	Bore and Stroke		90.0 x 84.0 mm	3.54 x 3.31 in	
	Displacement		3,206 cm^3 (mℓ)	195.6 cu-in	
	Compression Ratio		9.6 : 1, 9.0 : 1*		* Except European type and KU
	Valve Train		Belt driven, SOHC		
	Lubrication System		Forced and wet sump, trochoid pump		
	Oil Pump Displacement [At oil temp. 120°C (248°F)]		42.3 ℓ/min	44.7 US qt/min 37.2 Imp qt/min	at 6,000 pump min^{-1} (rpm)
	Fuel Required	C32A2 Engine	PREMIUM UNLEADED gasoline with research octane number of 95 or higher		European type and KU
		C32A3 Engine	UNLEADED gasoline with research octane number of 91 or higher		KQ
		C32A4, C32A5 Engines	LEADED gasoline with research octane number of 91 or higher		KY, KT Unleaded gasoline with R.O.N. of 91 or higher may also be used.
	Water Pump Displacement [At coolant temp. 25°C (77°F)]		178 ℓ/min	188 US qt/min 157 Imp qt/min	at 5,760 pump min^{-1} (rpm)
STARTER	Type/Make		Gear reduction, permanent magnet/MITSUBISHI		
	Normal Output		2.0 kW		
	Nominal Voltage		12 V		
	Hour Rating		30 seconds		
	Direction of Rotation		Clockwise as viewed from gear end		
	Weight		5.2 kg	11.5 lbs	
CLUTCH	Type	M/T	Single plate dry, diaphragm spring		
		A/T	Torque converter		
	Facing Area	M/T	251 cm^2	39 sq-in	

Design Specifications

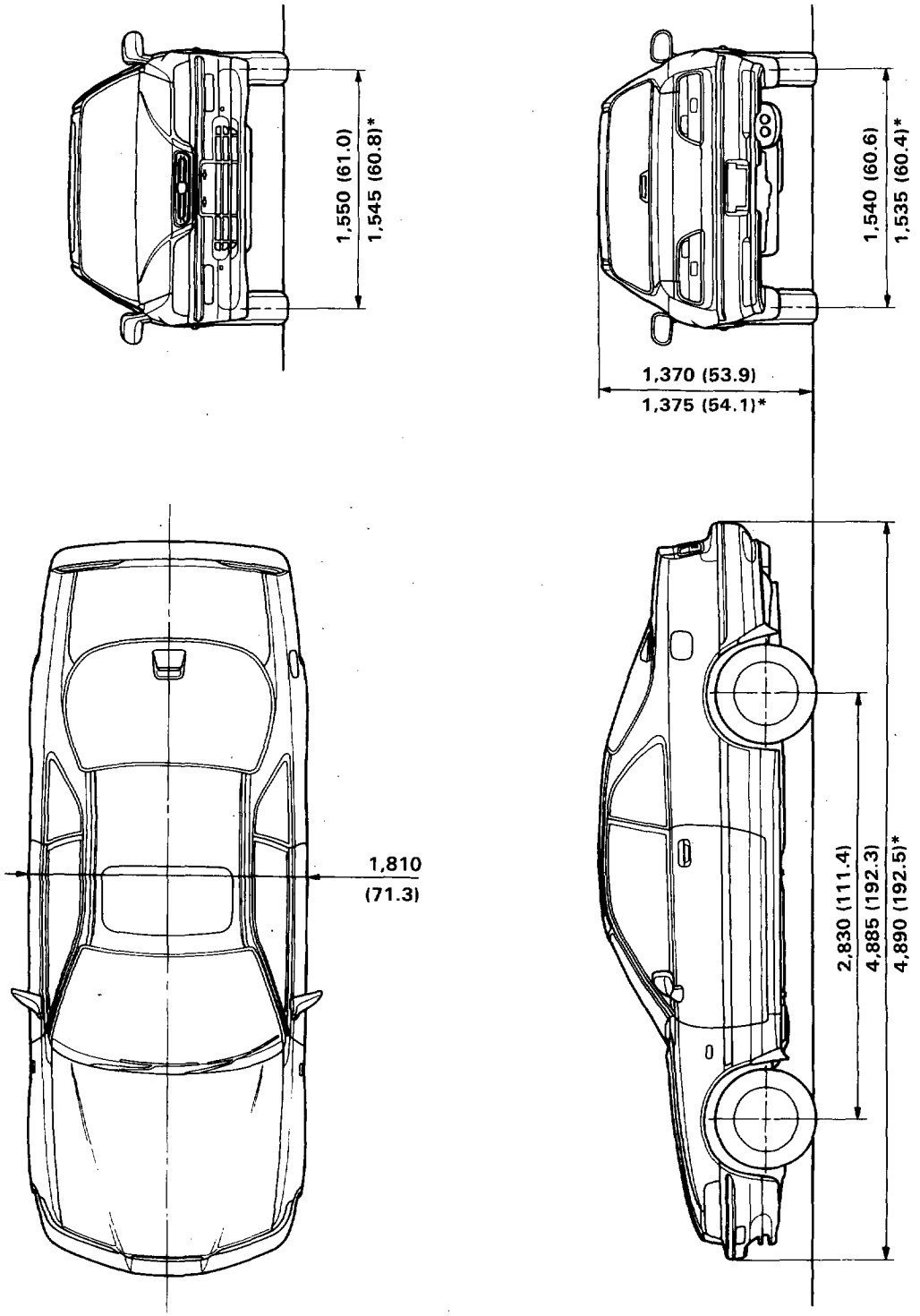
	ITEM		METRIC	ENGLISH	NOTES
TRANSMISSION	Type	M/T	Synchronized 5-speed forward, 1 reverse		
		A/T	Electronically controlled 4-speed automatic, 1 reverse		
	Primary Reduction		Direct 1 : 1		
			Manual	Automatic	
	Gear Ratio	1st	2.937	2.458/2.476*1	
		2nd	1.692	1.454/1.451*1	*1: KQ and KY
		3rd	1.151	0.973/0.948*2	*2: European type and KU
		4th	0.868	0.630/0.688*2	
		5th	0.682	—	
		Reverse	3.186	1.826/1.809*1	
	Secondary Reduction Gear	Type	Single helical gear		
		Ratio	1.433	1.394/1.333*2	
	Final Reduction Gear	Type	Spiral bevel gear		
		Ratio	3.133	3.133	
AIR CONDITIONING	Cooling Capacity		4,900 Kcal/h	19,443 BTU/h	
	Compressor	Type/Make	Swash-plate/NIPPONDENSO		
		No. of Cylinder	10		
		Capacity	207.4 cm^3/rev	12.7 cu-in/rev	
		Max. Speed	7,600 min^{-1} (rpm)		
		Lubricant Type	ND—OIL8		
		Lubricant Capacity	140 mℓ	4 2/3 fl oz, 4.9 Imp oz	
	Condenser	Type	Corrugated fin type		
	Evaporator	Type	Corrugated fin type		
	Blower	Type	Sirocco fan		
		Motor Input	200 W/12 V		
		Speed Control	Infinite variable		
		Max. Capacity	480 m^3/h	16,954 cu-ft/h	at 13.5 V
	Temp. control		Air-mix type		
	Compressor Clutch	Type	Dry, single plate, poly-V-belt drive		
		Power Consumption	40 W/12 V		
	Refrigerant	Type	HFC-134a (R-134a)		
		Quantity	700^{0}_{-50} g	$24.7^{0}_{-1.8}$ oz	
STEERING SYSTEM	Type		Power assisted, rack and pinion		
	Overall Ratio		16.7		
	Turns, Lock-to-Lock		3.64		
	Steering Wheel Diameter		390 mm	15.4 in	

	ITEM		METRIC	ENGLISH	NOTES
SUSPENSION	Type	Front	Independent double wishbone, coil spring with stabilizer		
		Rear	Independent double wishbone, coil spring with stabilizer		
	Shock Absorber	Front and Rear	Telescopic, hydraulic nitrogen gas-filled		
WHEEL ALIGNMENT	Camber	Front	0°00', 0°15'*		* KY
		Rear	−0°20', −0°5'*		
	Caster		3°45', 3°30'*		
	Toe	Front	Out 1.0 mm	Out 0.04 in	
		Rear	In 2.0 mm	In 0.08 in	
BRAKE SYSTEM	Type	Front	Power assisted self-adjusting ventilated disc		
		Rear	Power assisted self-adjusting solid disc with parking brake drum		
	Pad and Lining Surface Area:	Front	58.0 cm^2	8.99 sq-in	
		Rear	28.0 (49.0) cm^2	4.34 (7.60) sq-in	( ): Parking brake
	Parking Brake	Type	Mechanical expanding drums, rear two wheels		
TYRE	Size and Pressure		See tyre information label on driver's door jamb.		
ELECTRICAL	Battery		12 V−72 AH/20 HR		
	Starter		12 V−2.0 kW		
	Alternator		12 V−110 A		
	Fuses In The Under-dash Fuse Box		7.5 A, 10 A, 15 A, 20 A, 30 A		
	In The Under-hood Relay/Fuse Box		7.5 A, 10 A, 15 A, 20 A, 30 A, 40 A, 50 A, 120 A		
	Headlights (Low/High)		12 V−55/60 W, 12 V−55/65 W*1		
	Front Turn Signal Lights		12 V−21 W, 12 V−45 CP*1		
	Front Position Lights		12 V−5 W		
	Side Turn Signal Lights*2		12 V−5 W		
	Rear Turn Signal Lights		12 V−21 W, 12 V−45 CP*1		
	Brake/Taillights		12 V−21/5 W, 12 V−32/2 CP*1		
	Side Marker Lights*1	Front	12 V−5 W		
		Rear	12 V−3 CP		
	Back-up Lights		12 V−21 W, 12 V−32 CP*1		
	Rear Fog Light*3		12 V−21 W		
	High Mount Brake Light*4		12 V−45 CP		
	License Plate Lights		12 V−5 W, 12 V−8 W*1		
	Gauge Lights		12 V−3.0 W, 1.4 W		
	Indicator Lights		12 V−1.12 W, 1.4 W		
	Warning Lights		12 V−1.4 W		
	Interior Light	Front	12 V−5 W		
		Rear	12 V−3.4 W		
	Boot Light		12 V−3.4 W		
	Door Courtesy Lights		12 V−3.4 W		
	Vanity Mirror Lights		12 V−1.6 W		
	Illumination and Pilot Lights		12 V−1.4 W, 1.12 W, 0.84 W		
			12 V−0.91 W, 0.56 W, LED		
	Heater Illumination Light (Manual A/C)		12 V−1.4 W		

*1 KY only *2 Except KY *3 European type and KU *4 Except European type and KU

Body Specifications

Unit: mm (in)



*: KY

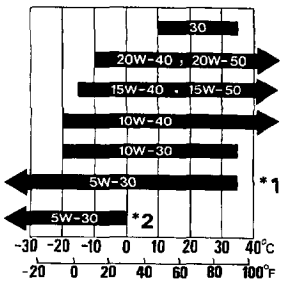
Maintenance

Lubrication Points 4-2
Maintenance Schedule 4-4

For the details of lubrication points and types of lubricants to be applied, refer to the Illustrated Index and various work procedures (such as Assembly/Reassembly, Replacement, Overhaul, Installation, etc.) contained in each section.

No.	LUBRICATION POINTS		LUBRICANT
1	Engine		API Service Grade: SF, SG or SH fuel efficient oil SAE Viscosity: See chart below
2	Transmission	Manual	API Service Grade: SF or SG SAE Viscosity: 10 W—30 or 10 W—40
		Automatic	Honda Premium Formula or DEXRON® II Automatic transmission fluid (ATF)
3	Brake Line		Brake fluid DOT3 or DOT4
4	Clutch Line		Brake fluid DOT3 or DOT4
5	Power steering gearbox		Steering grease P/N 08733—B070E
6	Shift lever pivots (Manual transmission)		Grease with molybdenum disulfide
7	Release fork (Manual transmission)		Urea Grease UM264 P/N 41211—PY5—305
8 9 10 11 12 13 14 15 16 17 18 19 20 21	Steering boots Throttle cable end Steering ball joints Select lever (Automatic transmission) Pedal linkage Intermediate shaft Brake master cylinder pushrod Trunk hinges Door hinges upper and lower Door opening detents Fuel fill lid Hood hinges and hood latch Clutch master cylinder pushrod (Manual transmission) Change rod joint (Manual transmission)		Multi-purpose grease
22	Caliper Piston seal, Dust seal, Caliper pin, Piston		Silicone grease
23	Power steering system		Honda power steering fluid-V
24	Differential		Differential oil Hypoid gear oil API classified GL4 or GL5 Viscosity: SAE90: above —18 °C (0 °F) SAE 80 W90: below —18 °C (0 °F)
25	Air conditioning compressor		Compressor oil: ND-OIL8 P/N 38899—PR7—003 (For Refrigerant: HFC-134a (R-134a)

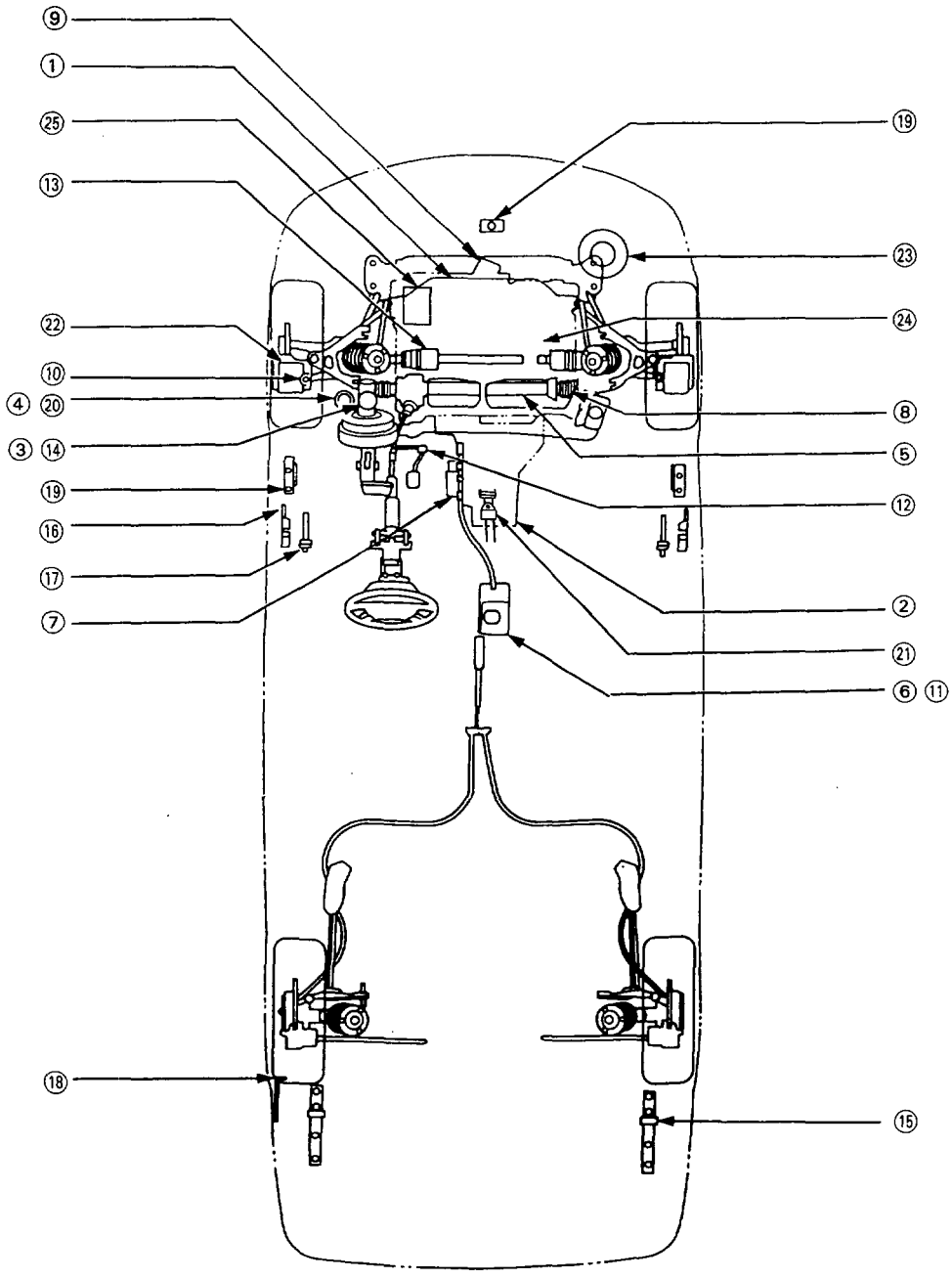
Recommended Engine Oil
API Service Grade: SF, SG or SH fuel efficient oil.
Select the oil for the car according to this chart.



Ambient temperature ranges

*1: For cars with catalytic converter
*2: For cars without catalytic converter

CAUTION:
Used engine oil may causes skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.


⑨
①
㉕
⑬
㉒
⑩
④ ⑳
③ ⑭
⑲
⑯
⑰
⑦
⑱
⑲
㉓
㉔
⑧
⑤
⑫
②
㉑
⑥ ⑪
⑮

Maintenance Schedule

R=Replace I=Inspect After inspection, clean, adjust, fill up, repair or replace if necessary.

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.											
		x 1,000 km	20	40	60	80	100	120	140	160	180	200
		x 1,000 miles	12	24	36	48	60	72	84	96	108	120
		months	12	24	36	48	60	72	84	96	108	120
● Engine oil and oil filter	For European models		Replace every 10,000 km (6,000 miles) or 12 months									
	For other than European models		Replace every 10,000 km (6,000 miles) or 6 months									
● Transmission oil	For European models				R			R			R	
	For other than European models			R		R		R		R		R
Front differential oil	For European models				R			R			R	
	For other than European models			R		R		R		R		R
Belt tension and conditions (Alternator, Power steering, A/C compressor)				I		I		I		I		I
Timing belt							R					R
Water pump							I					I
Cooling system hoses and connections				I		I		I		I		I
● Engine coolant						R		R		R		R
Spark plugs	For cars with catalytic converter						R*1					R*1
	For cars without catalytic converter		R	R	R	R	R	R	R	R	R	R
Ignition timing (For other than European models)				I		I		I		I		I
Air cleaner element	For cars with catalytic converter			R		R		R		R		R
	For cars without catalytic converter		R	R	R	R	R	R	R	R	R	R
Tank, fuel lines and connections				I		I		I		I		I
Fuel filter				R		R		R		R		R
Positive crankcase ventilation valve							I					I
Idle speed and idle CO			I*2	I*2	I*2	I*2	I	I	I	I	I	I
EGR system (For cars without catalytic converter)				I		I		I		I		I
EGR filter (For cars without catalytic converter)						R				R		
Evaporative emission control system (For other than European models)							I					I

- Day to day care (engine oil, ATF and coolant level) should be done practically according to the owner's manual by the customer.

*1: Replace every 6 years or 100,000 km (60,000 miles), whichever comes first.

*2: For KS model, recommended by manufacturer only: except for KS model, it is required.

R=Replace I=Inspect After inspection, clean, adjust, fill up, repair or replace if necessary.

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.											
	x 1,000 km	20	40	60	80	100	120	140	160	180	200
	x 1,000 miles	12	24	36	48	60	72	84	96	108	120
	months	12	24	36	48	60	72	84	96	108	120
Front brake pads		Inspect every 10,000 km (6,000 miles) or 12 months									
Front brake discs and calipers		I	I	I	I	I	I	I	I	I	I
Rear brake discs, calipers and pads			I		I		I		I		I
Parking brake drums and linings			I		I		I		I		I
Parking brake operation		I	I		I		I		I		I
Brake fluid (Including ABS)			R		R		R		R		R
Brake hoses and lines		I	I	I	I	I	I	I	I	I	I
Anti-lock brake system operation		I	I		I		I		I		I
Anti-lock brake system high pressure hose					R				R		
Exhaust system and condition		I	I	I	I	I	I	I	I	I	I
Catalytic converter heat shield (For cars with catalytic converter)						I					I
Suspension components		I	I	I	I	I	I	I	I	I	I
Steering function, tie-rod ends, gear box and boots		I	I		I		I		I		I
Power steering function, hoses and connections		I	I	I	I	I	I	I	I	I	I
All fluid levels		Inspect every 10,000 km (6,000 miles) or 12 months									
Battery condition		I	I	I	I	I	I	I	I	I	I
Tires condition, wear and pressure (Including spare)		Inspect every 10,000 km (6,000 miles) or 12 months									
Lights operation and headlight beam		Inspect every 10,000 km (6,000 miles) or 12 months									
Paint damages and body work		I	I	I	I	I	I	I	I	I	I
Test drive (Noise, stability, dashboard operations)		I	I	I	I	I	I	I	I	I	I
Cleanliness of controls, door handles etc		Inspect after every service									
Supplemental Restraint System		Inspect system 10 years after first registration									

(cont'd)

Maintenance Schedule

(cont'd)

Severe Driving Conditions
The following items must be serviced more frequently on cars normally used under severe driving conditions.
Refer to the chart below for the appropriate maintenance intervals.

Severe driving conditions include:
A : Repeated short distance driving.
B : Driving in dusty conditions.
C : Driving in severe cold weather.
D : Driving in areas using road salt or other corrosive materials.
E : Driving on rough and/or muddy roads.
F : Towing a trailer.

R=Replace C=Clean I=Inspect After inspection, clean, adjust, fill up, repair or replace if necessary.

Condition	Maintenance		Operation	Interval
A B · · · F	Engine oil and oil filter	For European models	R	Every 5,000 km (3,000 miles) or 6 months
		For other than European models	R	Every 5,000 km (3,000 miles) or 3 months
· · · · · F	Transmission oil		R	Every 20,000 km (12,000 miles) or 12 months
· · · · · F	Front differential oil		R	Every 20,000 km (12,000 miles) or 12 months
· B · · E ·	Air cleaner element	For cars with catalytic converter	C	Every 20,000 km (12,000 miles) or 12 months
			R	Every 40,000 km (24,000 miles) or 24 months
		For cars without catalytic converter	C	Every 10,000 km (6,000 miles) or 6 months
			R	Every 20,000 km (12,000 miles) or 12 months
A B · D E F	Front brake discs and calipers		I	Every 10,000 km (6,000 miles) or 6 months
A B · D E F	Rear brake discs, calipers and pads		I	Every 20,000 km (12,000 miles) or 12 months
· B C · E ·	Power steering system		I	Every 10,000 km (6,000 miles) or 6 months

Engine Removal/Installation

Engine Removal/Installation 5-2

Outline of Model Changes

- The suction pipe of air conditioning system has been changed (LHD model).
- The TCS has been adopted.

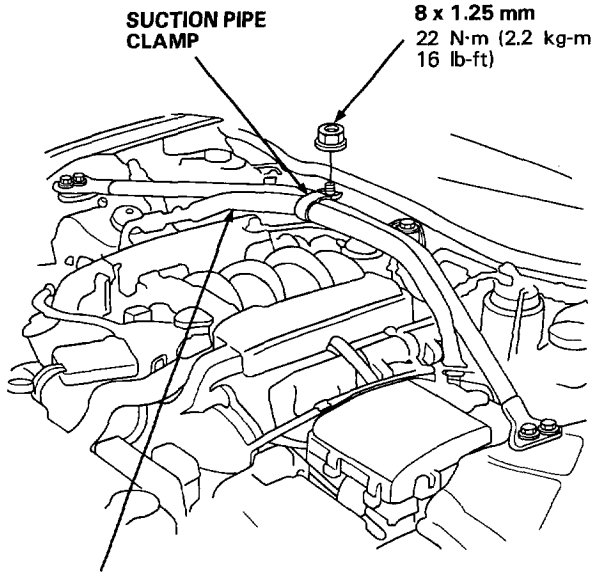
Engine Removal/Installation

Refer to shop manual (code No. 62SP020 and 62SP021) for service procedures except following.

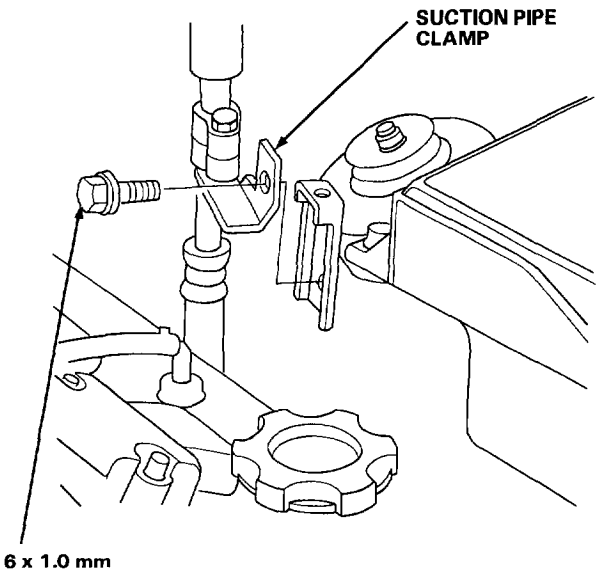
LHD model :

CAUTION:
Take care not to bend the suction pipe when removing and installing the cylinder heads.

1. Remove the suction pipe clamp from the strut bar.

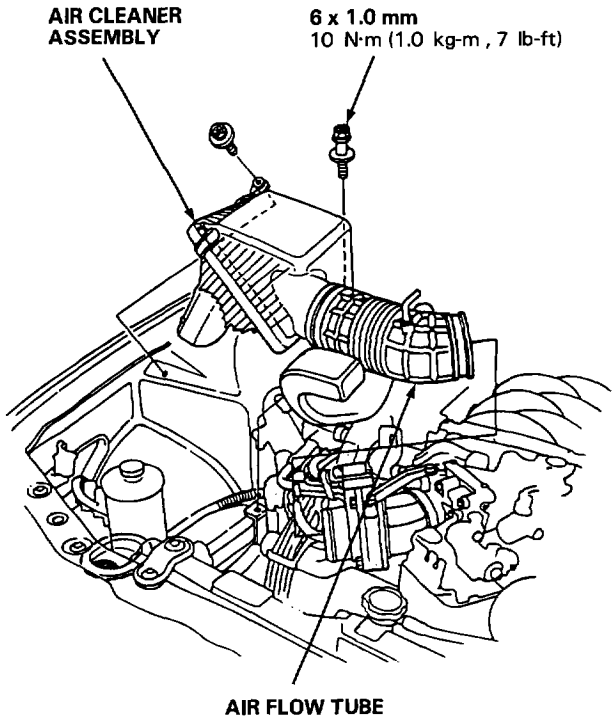


2. Remove the suction pipe clamp from the throttle cable bracket.



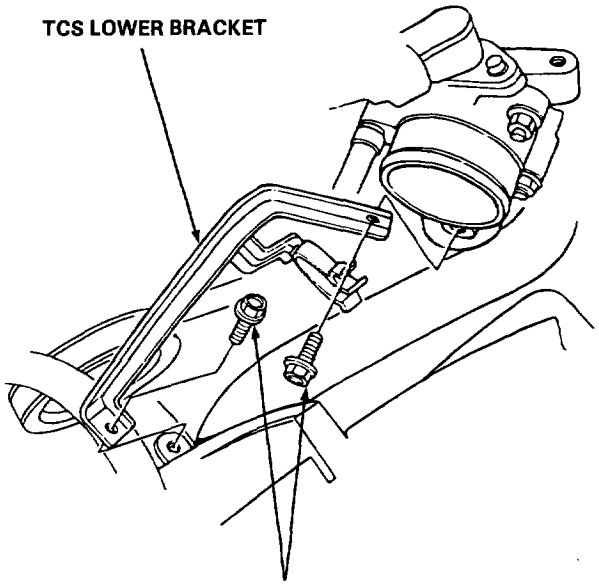
Cars equipped TCS :

1. Remove the air cleaner assembly and air flow tube.



2. Remove the TCS lower bracket from the power steering bracket and TCS control valve assembly.

NOTE:
Refer to section 19 when installing the bracket.



Cylinder Head/Valve Train

Cylinder Head

Removal 6-2

Outline of Model Changes

- The suction pipe of air conditioning system has been changed (LHD model).
- The TCS has been adopted.

Cylinder Head

Removal

Refer to shop manual (code No.62SP020 and 62SP021) for service procedures except following.

LHD model :

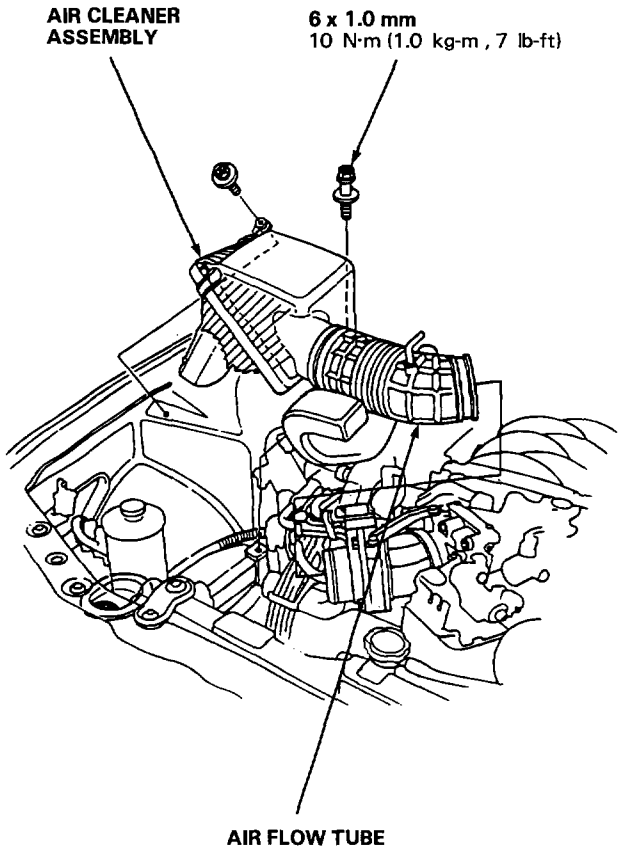
CAUTION:
Take care not to bend the suction pipe when removing and installing the cylinder heads.

1. Remove the suction pipe clamps from the strut bar and throttle cable bracket (see page 5-2).

Cars equipped TCS :

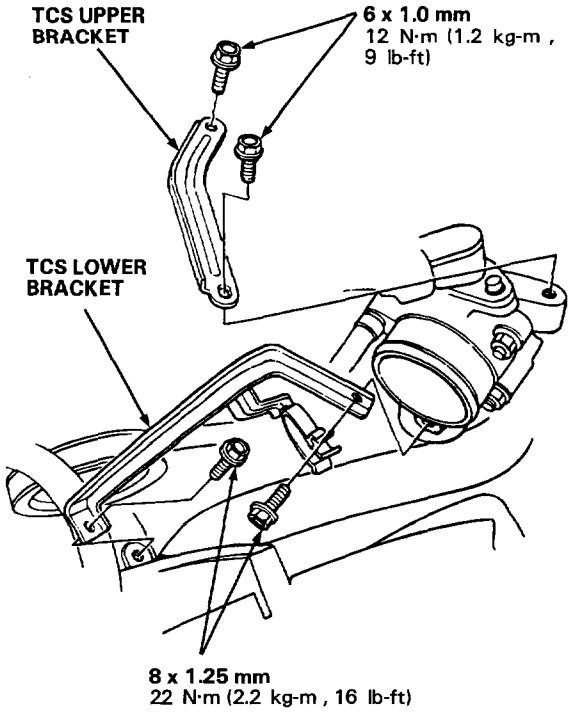
NOTE:
Do the following also when removing the timing belt.

1. Remove the air cleaner assembly and air flow tube.

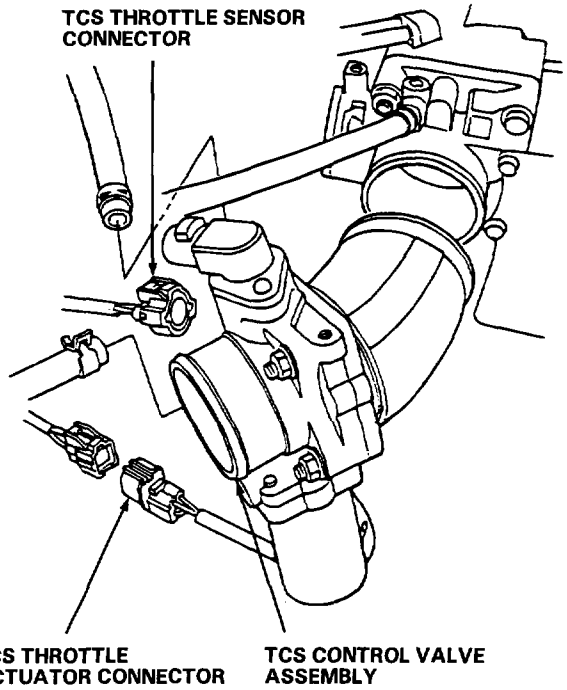


2. Remove the TCS upper and lower bracket.

NOTE:
Refer to section 19 when installing the bracket.



3. Disconnect the TCS throttle sensor connector and TCS throttle actuator connector, then remove the TCS control valve assembly.



Engine Lubrication

Engine oil
Inspection 8-2
Replacement 8-2

Outline of Model Changes

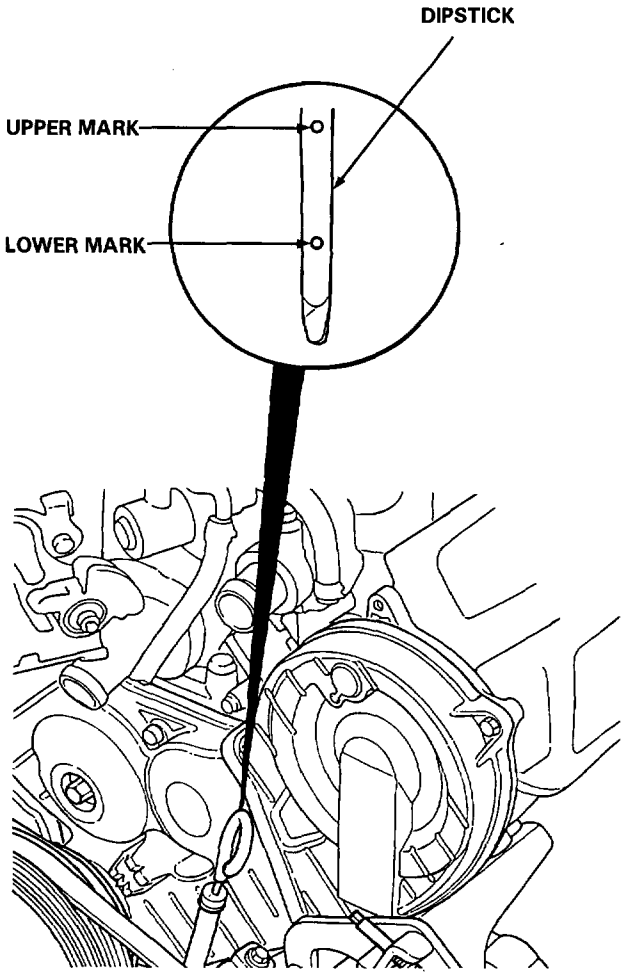
- The dipstick has been changed.
- Recommended oil has been changed.

Engine Oil

Inspection

1. Check engine oil with the engine off and the car parked on level ground.
2. Make certain that the oil level indicated on the dipstick is between the upper and lower marks.
3. If the level has dropped close to the lower mark, add oil until it reaches the upper mark.

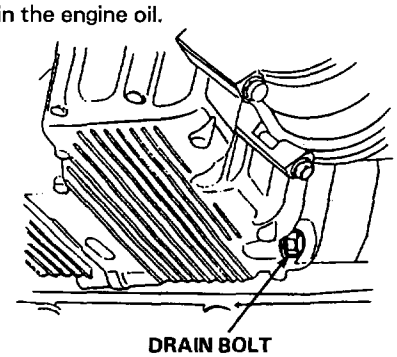
CAUTION:
Insert the dipstick carefully to avoid bending it.



Replacement

CAUTION:
Remove the drain bolt carefully. Hot oil may cause scalding.

1. Warm up the engine.
2. Drain the engine oil.



DRAIN BOLT
45 N·m (4.5 kg-m , 33 lb-ft)

3. Reinstall the drain bolt with a new washer, and refill with the recommended oil.

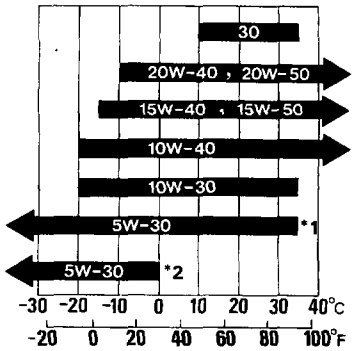
CAUTION:
Do not overtighten the drain bolt.

Requirement	API Service Grade: SF, SG or SH
Change	Every 10,000 km (6,000 miles) or 6 (12*3) months.

*3 : European models

Capacity	4.5 ℓ (4.8 US qt , 4.0 Imp qt) at oil change, including filter. 4.0 ℓ (4.2 US qt , 3.5 Imp qt) at oil change, without filter. 5.3 ℓ (5.6 US qt , 4.7 Imp qt) at engine overhaul.

Engine Oil SAE Viscosity for Outside Temperature Ranges.



Ambient temperature ranges
*1 : For cars with catalytic converter
*2 : For cars without catalytic converter

NOTE:
Oil filter should be replaced at each oil change.

4. Fill the engine with oil up to the specified level, run the engine for more then three minutes, then check for oil leakage and oil level.

Intake Manifold/Exhaust System

Intake Manifold
Replacement 9-2

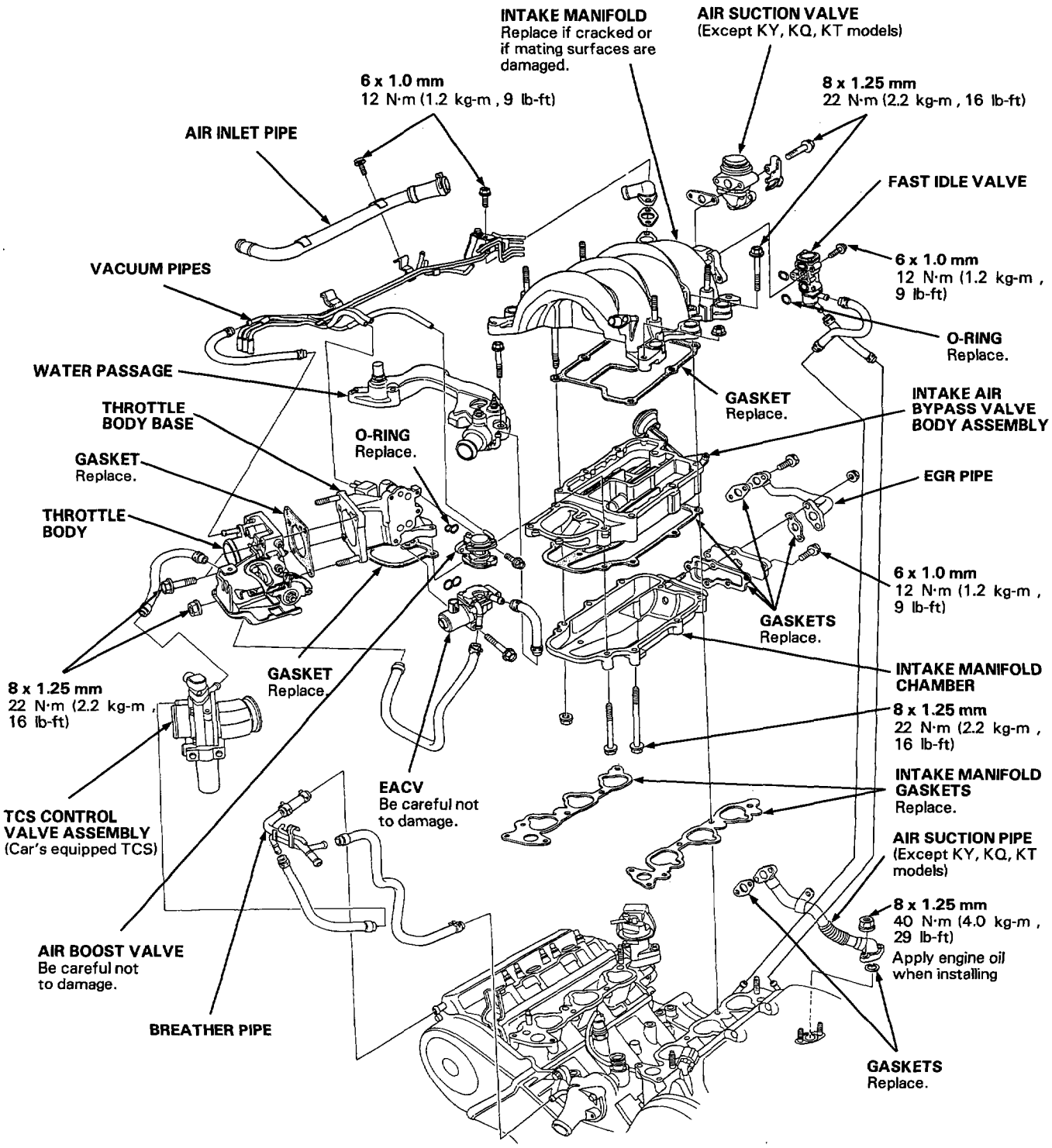
Outline of Model Changes

- Intake manifold has been changed.
- The TCS has been adopted.

Intake Manifold

Replacement

NOTE:
- Use new gaskets and O-rings when reassembling.
- Refer to section 19 when installing the TCS upper and lower brackets (car's equipped TCS).



Fuel and Emissions

System Description

Electrical Connections 11-2

Troubleshooting

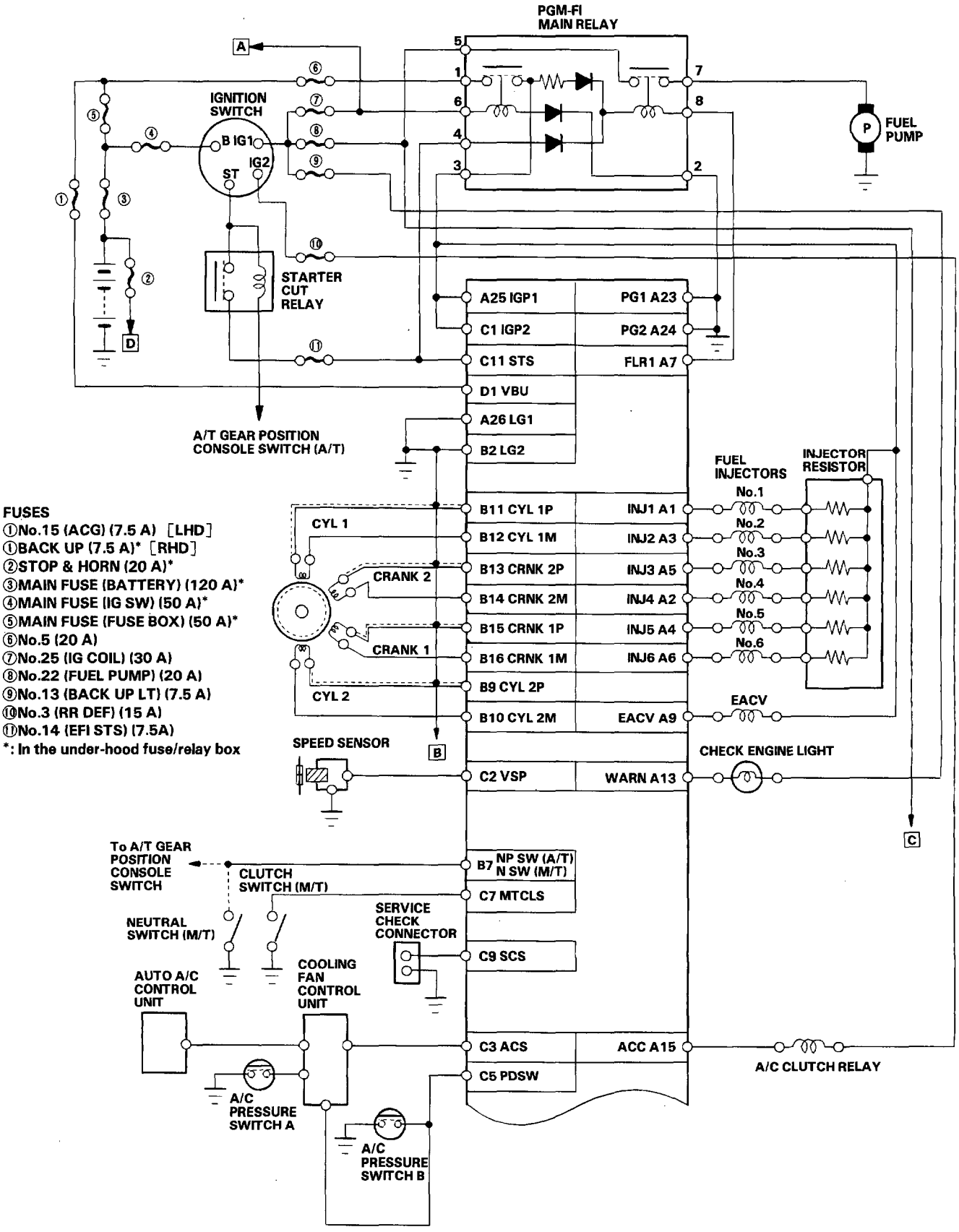
Self-diagnostic Procedures 11-4

Outline of Model Changes

- The TCS control system has been added.
- The Electronic Control Unit (ECU) has been modified, and changed following :
  —Electrical Connections
  —Self-diagnostic Procedures

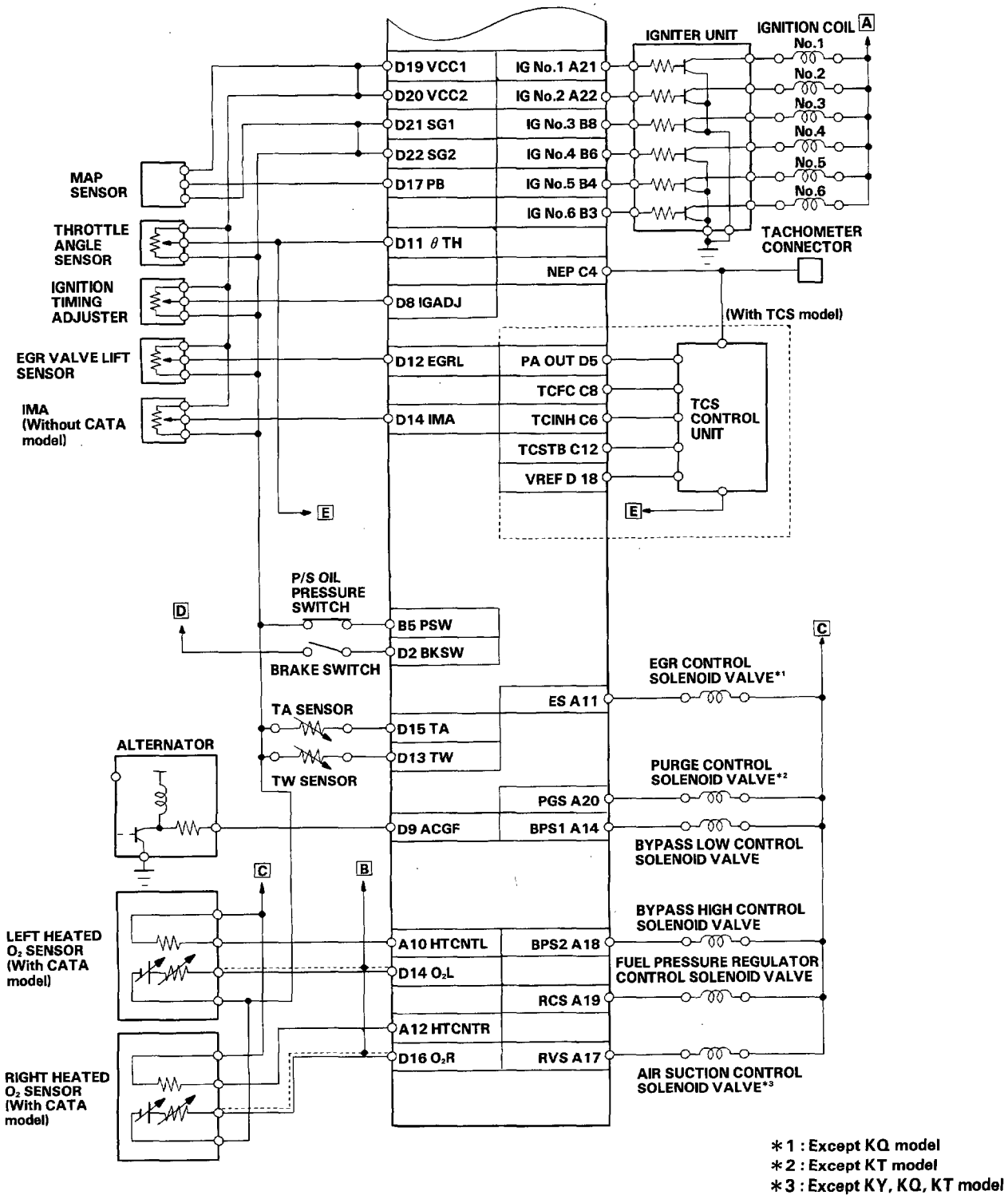
System Description

Electrical Connections

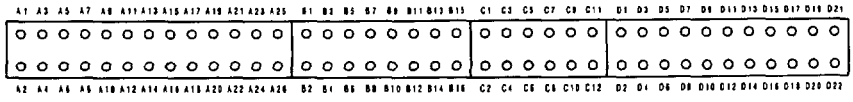


FUSES

①No.15 (ACG) (7.5 A) [LHD]
①BACK UP (7.5 A)* [RHD]
②STOP & HORN (20 A)*
③MAIN FUSE (BATTERY) (120 A)*
④MAIN FUSE (IG SW) (50 A)*
⑤MAIN FUSE (FUSE BOX) (50 A)*
⑥No.5 (20 A)
⑦No.25 (IG COIL) (30 A)
⑧No.22 (FUEL PUMP) (20 A)
⑨No.13 (BACK UP LT) (7.5 A)
⑩No.3 (RR DEF) (15 A)
⑪No.14 (EFI STS) (7.5A)
*: In the under-hood fuse/relay box



*1 : Except KQ model
*2 : Except KT model
*3 : Except KY, KQ, KT model



TERMINAL LOCATION

Troubleshooting

Self-diagnostic Procedures

SELF-DIAGNOSIS INDICATOR BLINKS	SYSTEM INDICATED	PAGE
0	ECU	—
1	LEFT OXYGEN SENSOR(With CATA model)	—
2	RIGHT OXYGEN SENSOR (With CATA model)	—
3	MANIFOLD ABSOLUTE PRESSURE (MAP SENSOR)	—
5		
4	CRANK ANGLE 1	—
6	COOLANT TEMPERATURE (TW SENSOR)	—
7	THROTTLE ANGLE	—
9	No. 1 CYLINDER POSITION 1(CYL SENSOR)	—
10	INTAKE AIR TEMPERATURE (TA SENSOR)	—
11	IDLE MIXTURE ADJUSTMENT (IMA) (Without CATA model)	—
12	EXHAUST GAS RECIRCULATION SYSTEM (EGR) (Except KQ model)	—
13	ATMOSPHERIC PRESSURE (PA SENSOR)	—
14	ELECTRONIC AIR CONTROL (EACV)	—
15	IGNITION OUTPUT SIGNAL	—
17	VEHICLE SPEED SENSOR	—
18	IGNITION TIMING ADJUSTMENT	—
35	TC STB SIGNAL (With TCS model)	19-33
36	TCFC SIGNAL (With TCS model)	19-35
41	LEFT OXYGEN SENSOR HEATER (With CATA model)	—
42	RIGHT OXYGEN SENSOR HEATER (With CATA model)	—
43	LEFT FUEL SUPPLY SYSTEM (With CATA model)	—
44	RIGHT FUEL SUPPLY SYSTEM (With CATA model)	—
54	CRANK ANGLE 2	—
59	No.1 CYLINDER POSITION 2 (CYL SENSOR)	—

- If codes other than those listed above are indicated, verify the code. If the code indicated is not listed above, replace the ECU.
- For reference pages not listed with the respective Self-Diagnosis Indicator Blinks, refer to base Shop Manuals.
- The Check Engine Light may come on, indicating a system problem when, in fact, there is a poor or intermittent electrical connection. First, check the electrical connections, clean or repair connections if necessary.
- The Check Engine Light and D_4 indicator light may come on simultaneously when the self-diagnosis indicator blinks 6, 7or 17. Check the PGM-FI system according to the PGM-FI control system troubleshooting, then recheck the D_4 indicator light.
- The Check Engine Light and TCS indicator light may come on simultaneously when the code blinks 3, 5, 6, 13, 15, 17, 35 and 36. Check the PGM-FI system according to the PGM-FI system troubleshooting, then recheck the TCS indicator light. If it comes on, see page 19-16.

Brakes

ABS (Anti-lock Brake System).....19-1
TCS (Traction Control System)
TWS (Tire pressure Watching System).....19-3

Outline of Model Change

- The system of the TCS (Traction Control System) with the TWS (Tire pressure Watching System) is additionally equipped on the KG, KS, KX and KF models.

ABS (Anti-lock Brake System)

Operation After Disconnecting ABS B2
(15A) Fuse 19-2

ABS

Outline of Model Change

- Owing to the addition of the TCS (Traction Control System) with the TWS (Tire pressure Watching System) to the KG, KS, KX and KF models, the operational procedure after disconnecting the ABS B2 (15A) fuse is added.

ABS (Anti-lock Brake System)

Operation After Disconnecting ABS B2 (15A) Fuse

The TWS's standard wheel speeds is erased when the ABS B2 (15A) fuse is disconnected.

Be sure to input the standard wheel speeds (initial offset memory) again after disconnecting the ABS B2 (15A) fuse in the under-hood fuse/relay box. When the ALB checker is used after disconnecting the ABS B2 (15A) fuse, disconnect the ABS B2 fuse again and input the new standard wheel speeds. The incorrect standard wheel speeds can be inputted when the ALB checker is used before input of the correct standard wheel speeds.

TCS (Traction Control System)
TWS (Tire pressure Watching System)

Component Location 19-4

System Description (TCS)

Outline 19-5

Construction and Function 19-6

System Description (TWS)

Outline 19-10

Construction and Function 19-11

Circuit Diagram 19-12

Troubleshooting (TCS) 19-14

Troubleshooting (TWS) 19-68

Electronic Components

TCS Switch Test 19-74

Fail-safe Relay Test 19-74

Lateral Acceleration (Lg) Sensor Test 19-75

TCS Control Unit Replacement 19-75

Steering Angle Sensor Replacement 19-76

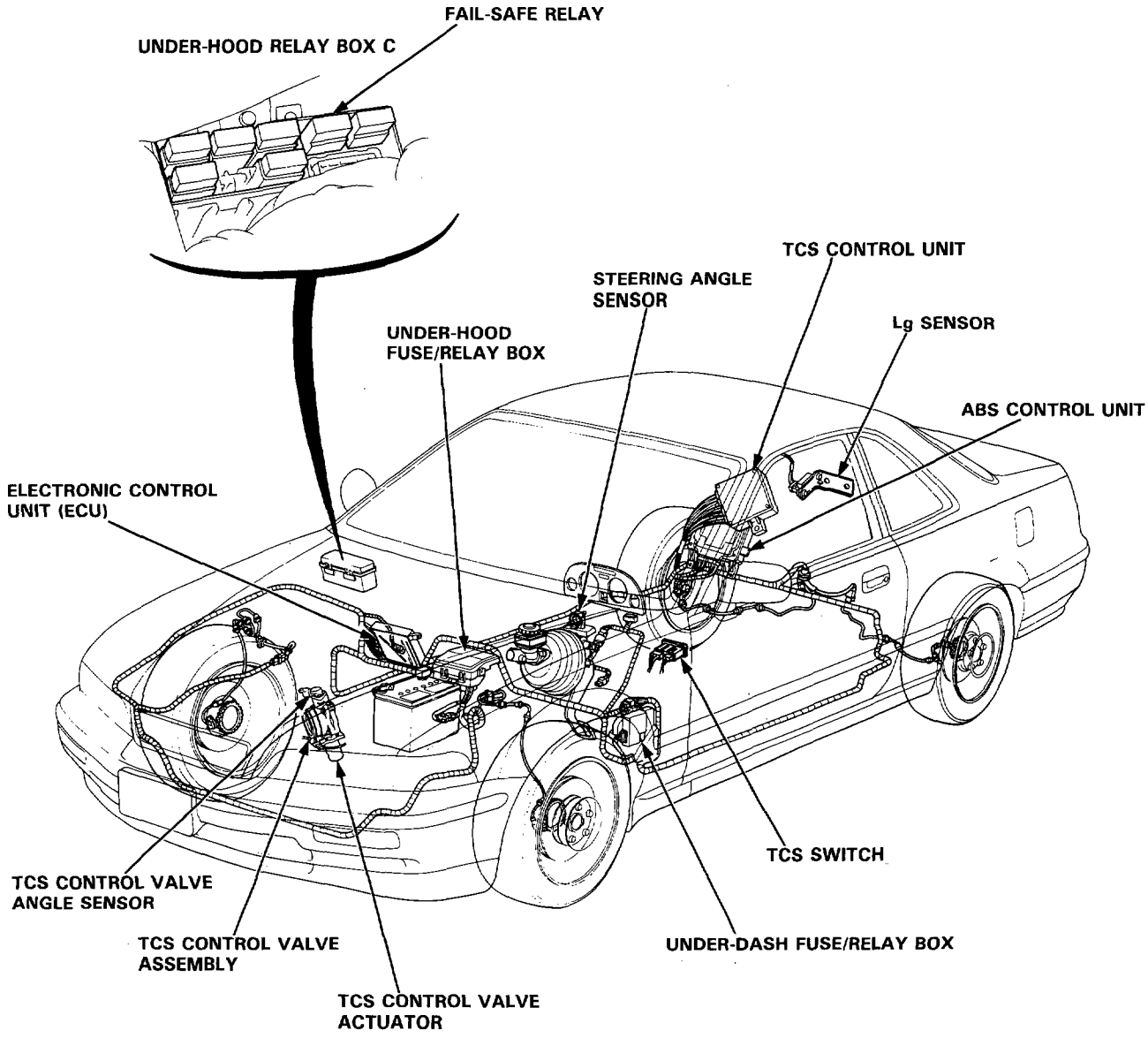
TCS Control Valve Assembly

Removal/Installation 19-78

Outline of Model Change

- The system of the TCS (Traction Control System) with the TWS (Tire pressure Watching System) is additionally equipped on the KG, KS, KX and KF models.

Component Location



System Description (TCS)

Outline

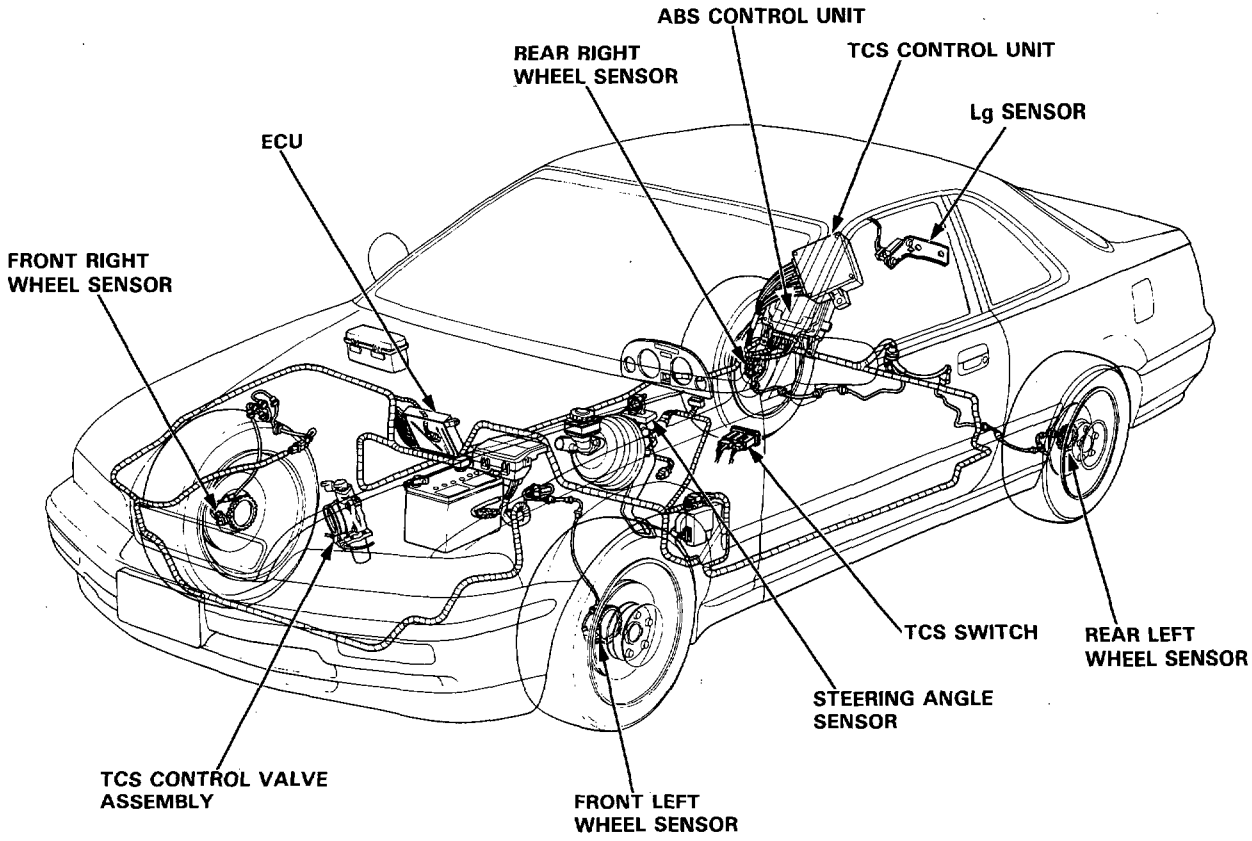
Role of System

The traction control is a variable system designed to enhance traction during acceleration and cornering. It does so by determining the optimum amount of wheel spin for any given driving situation, then suppressing surplus engine power accordingly.

Construction and Function

The TCS control unit gets signals about the vehicle's speed, direction and road conditions from the wheel sensors, steering angle sensor and lateral acceleration (Lg) sensor. Based on these signals, the control unit will determine the optimum amount of wheel spin. Because the system is variable, the control unit may determine, depending on the driving conditions, that some wheel spin is beneficial (thus enhancing straight-line acceleration), or that no wheel spin is beneficial (thus enhancing cornering). For any given driving situation, the control unit will determine the amount of wheel spin best suited to the driver's needs and, if necessary, will then signal the TCS control valve actuator, and engine ECU to reduce engine power.

The system is automatically "ready" whenever the engine is started, but can be manually canceled with the TCS switch. However, once activated, the system cannot be canceled until it is once again in the ready state.



Components:

- Wheel sensors: The TCS "shares" the wheel sensors with the anti-lock brake system (ABS). The wheel sensors transmit the wheel speed signals to the TCS control unit through the ABS control unit.
- Steering angle sensor: The steering angle sensor signals the TCS control unit about the amount of steering angle.
- Lg sensor: The Lg sensor detects the lateral acceleration of the vehicle and signals the TCS control unit.
- TCS control valve actuator: The actuator gets signals from the TCS control unit and closes the TCS control valve accordingly.
- TCS control unit: The control unit gets driving condition signals from the sensors and, if necessary, signals the TCS control valve actuator to close the TCS control valve, and the ECU to cut the fuel and retard the ignition timing.

System Description (TCS)

Construction and Function

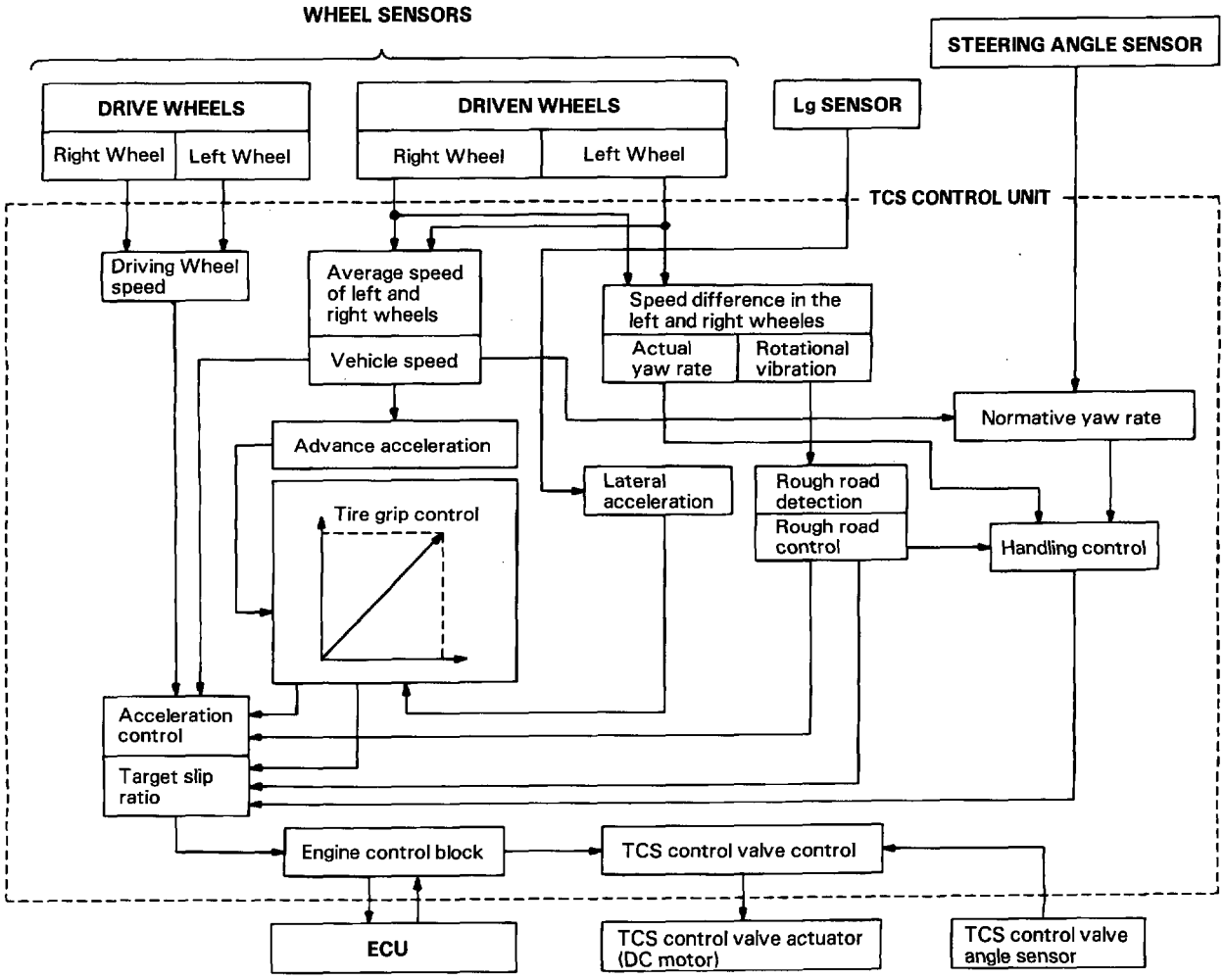
TCS Control Unit

Acceleration Control:
The TCS control unit gets signals from the wheel sensors about the rotational speed of each wheel. Traction control is activated when the rotational speed of the driving wheels differs from the rotational speed of the driven wheels (i.e., vehicle speed).

Handling Control:
Based on signals about the left and right driven wheel rotational speeds, the control unit calculates the car's "yaw" rate (i.e., the turn rate of the car's body). Based on signals from the steering angle sensor and driven wheel sensors, the control unit also calculates the yaw rate expected by the driver. If the difference between actual and expected yaw rates is substantial-that is, if the direction of the car's body will exceed the driver's expected line-the control unit signals the TCS control valve actuator, and ECU, thus reducing engine power and maintaining the expected line.

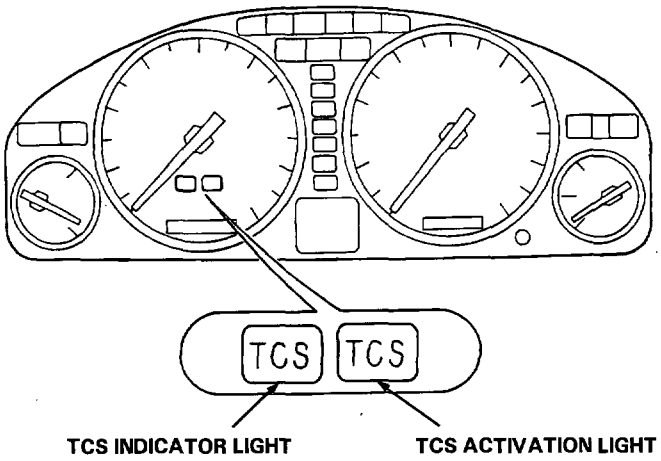
Rough Road Control:
Based on signals from the wheel sensors, the control unit detects a rough road based on frequency of wheel rotational vibration. The control unit then signals the TCS control valve actuator, and ECU to relax engine power, thus improving acceleration efficiency.

Grip Control:
Based on signals about wheel speed and from lateral acceleration (Lg) sensor, the control unit determines the efficiency of the grip of the tires on the road and signals the TCS control valve actuator, and ECU to relax engine power if necessary, thus improving grip.



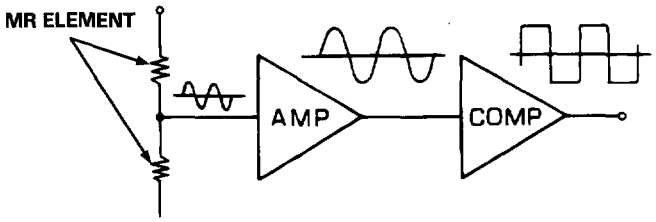
Fail-Safe Function:
If the control unit detects an abnormality, it shuts the traction control system off and causes the TCS indicator light to come on. However if the abnormality is detected while the TCS is activated, the control first establishes the appropriate wheel spin velocity, then shuts the system down, thus preventing excessive wheel spin.

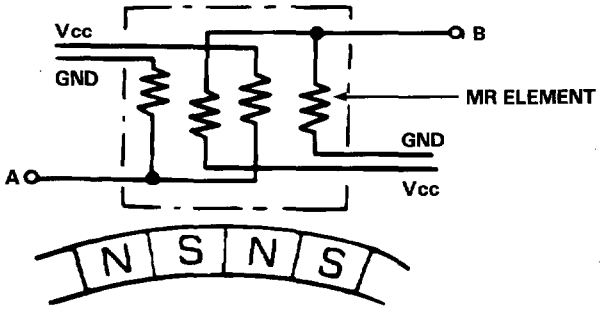
Self-Diagnosis Function:
If the control unit detects an abnormality, it records a Problem Code which can be used to diagnose the problem. The code is shown at the TCS indicator light when the Service Check connector terminals are connected with a jumper wire.

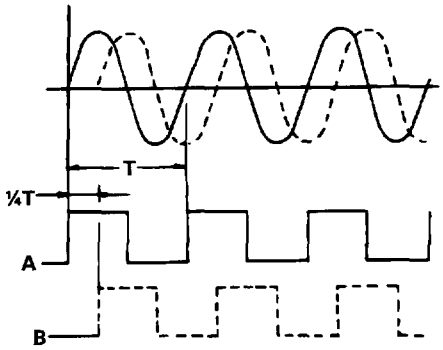


Steering Angle Detection

Steering angle is detected by the steering angle sensor, located on the steering column. The sensor uses two magnetoresistor elements to determine steering angle and direction of rotation. When the driver turns the steering wheel, a magnet in the steering shaft generates waves in the "MR" elements. These waves are amplified and converted into signals which the control unit can interpret as angle and direction of turn.

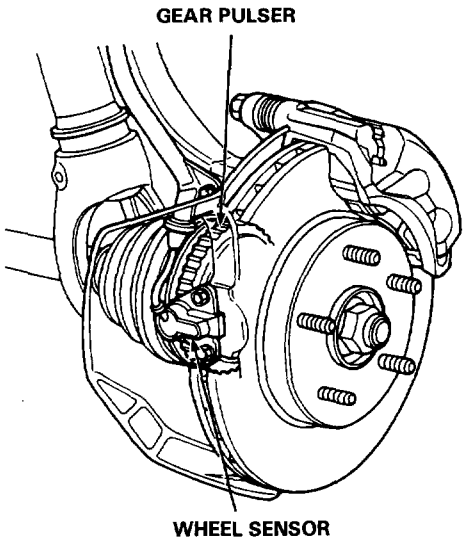






Vehicle Speed Detection

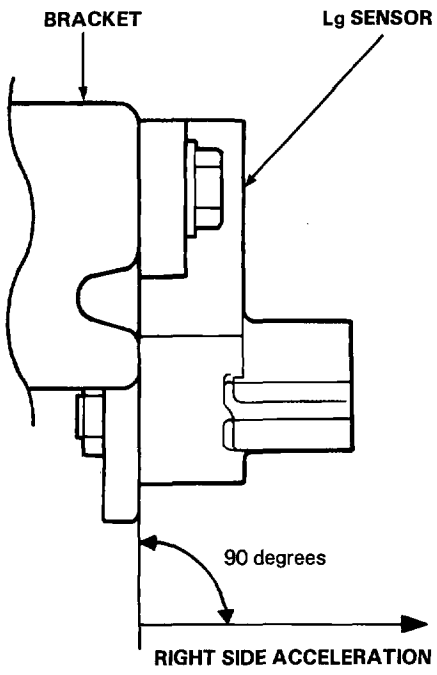
Wheel rotation speed is detected by the wheel sensors, located at each wheel. The signals are sent to the control unit, which compares each wheel's speed and determines whether traction control is required.

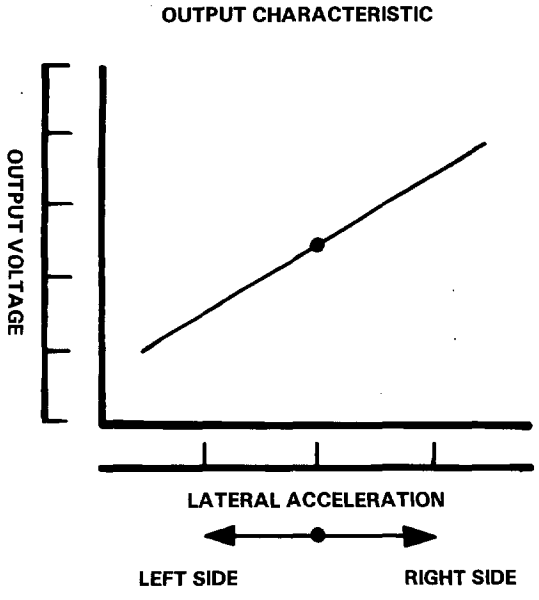


Construction and Function

Lateral Acceleration Detection

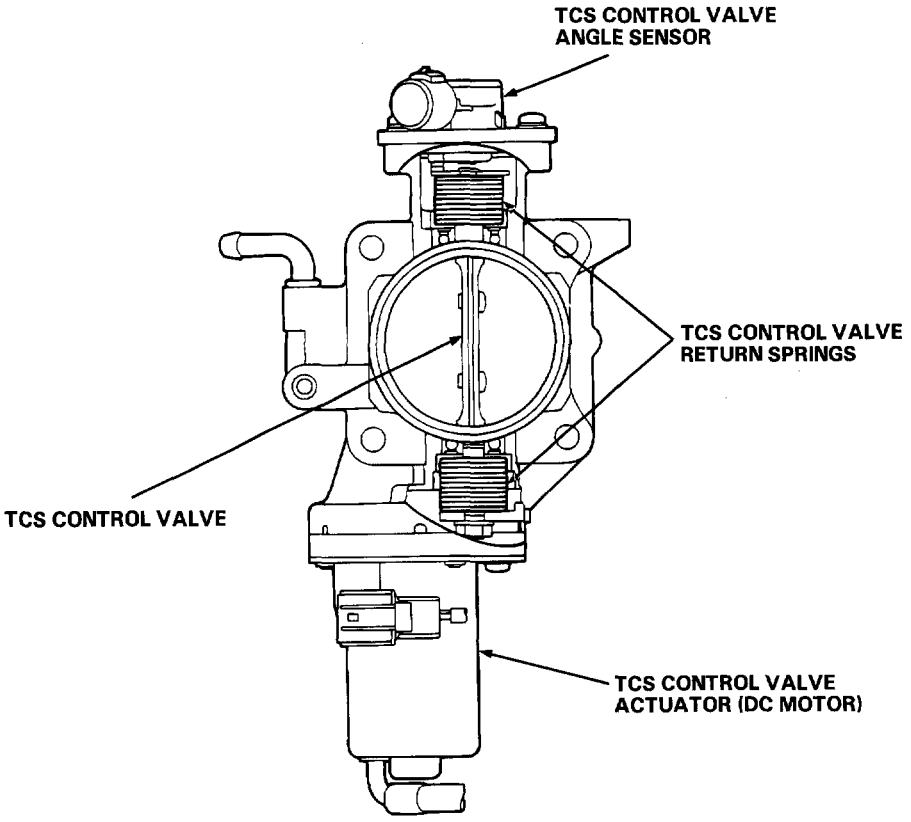
Lateral acceleration is detected by the lateral acceleration (Lg) sensor located behind the rear seat-back. The Lg sensor varies the output voltage in accordance with the left or right side acceleration and sends it to the TCS control unit as a lateral acceleration signal.

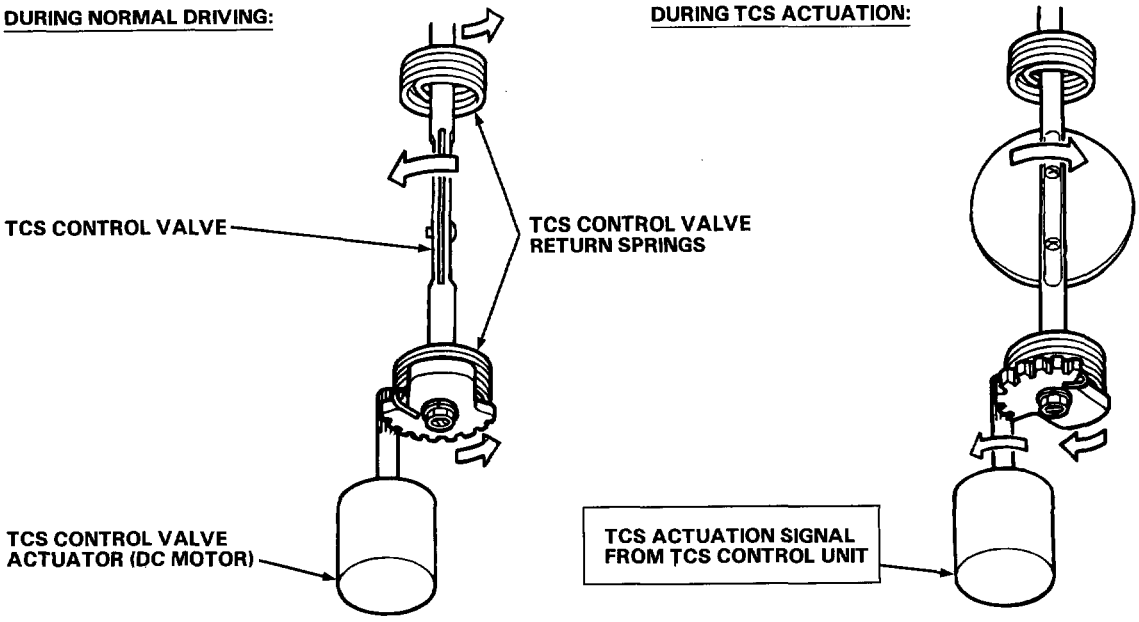




Engine Output Control

When the TCS is activated, the TCS control unit signals the TCS control valve actuator and ECU. The actuator is linked to the TCS control valve which is normally returned to fully open position by the two return springs.
Although the throttle valve is still within the driver's control, the engine output is relaxed by the TCS control valve and ECU to achieve optimum traction.



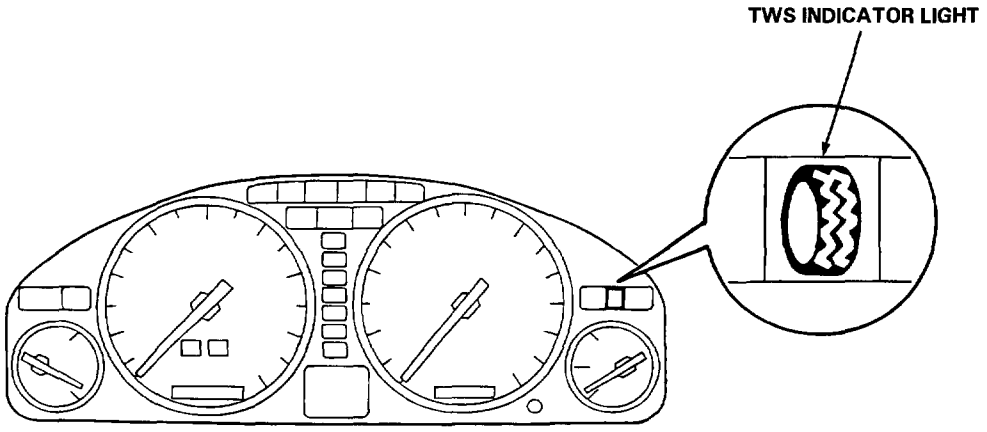


System Description (TWS)

Outline

Role of System

The tire air pressure is very important for safety driving and should be properly adjusted to maintain proper steering control and low fuel consumption. Also, driving with low air pressure tires will adversely affect the tires and may damage them.
The Tire Pressure Watching System (TWS) is designed to make the driver check the tires immediately by warning with the TWS indicator light when the air pressure of one or more tires is abnormal.



Operating Principle

The lower air pressure tires rotates faster than the normal pressure tires during driving, because its diameter is smaller than the one of the normal pressure tires.
Noting this fact, the TWS detects the drop of tire air pressure by means of the various sensor signals such as the wheel speed signal of the anti-lock brake system.

Standard Wheel Speeds (Initial Offset Memory)

Even the new tires of the same brand have approximately 1% of difference in diameter, which affects directly to the wheel speed. Therefore, it is necessary for the TWS control unit to memorize each wheel speed previously by actual driving. This wheel speed memorized in the control unit is the standard wheel speeds (initial offset memory).

Blinking of TWS Indicator Light

When the TWS detects the abnormal tire pressure during driving, it blinks the TWS indicator light to warn the driver. When the TWS indicator light warns of the abnormal tire pressure, the detected code can be shown with the TWS indicator light by connecting the two terminals of the Service Check Connector with the jumper wire (see page 19-14). The abnormal pressure tire can be determined by the blinking frequency of the TWS indicator light.

Detected Code	Probable Cause
1-1	The pressure of either the left or right front tire is low.
1-2	The pressure of either the left or right rear tire is low.
2-0	The pressure of one of the four tires is low. · This code may be detected when there is excessive wear difference between the left and right front tires.
3-0	The pressures of either the two front tires or two rear tires are low. · This code may be detected under the following conditions: —When the tire rotation is not performed and the front tires are worn excessively after the standard wheel speeds (initial offset memory) is inputted in the control unit. —When the car is driven at high speed with the low speed range tires installed. —When the car is driven at high speed with the trailer towed.

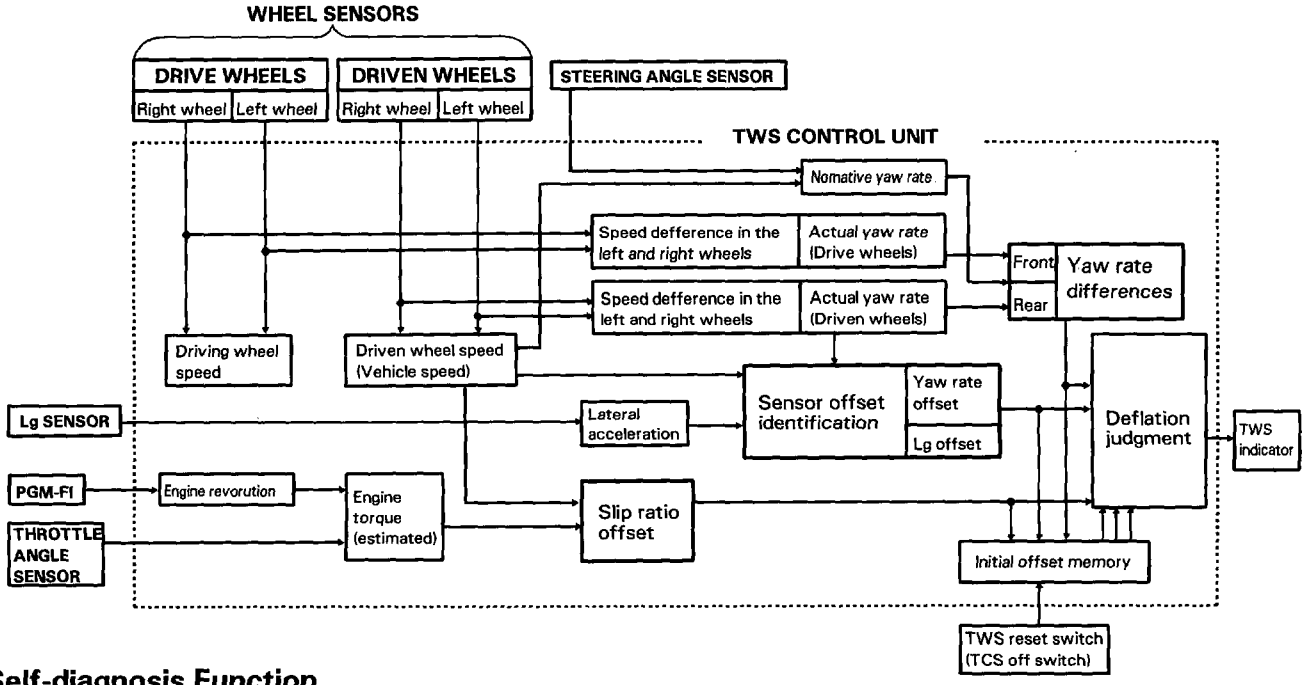
NOTE:
The detected code memorized in the TWS control unit can be erased by disconnecting the ABS B2 (15 A) fuse.

Construction and Function

TWS Control Unit

The TWS control unit is integrated in the TCS control unit and shares the wheel speed signal, steering angle signal and lateral acceleration signal with the TCS control unit. It measures the difference of the actual rotation speed between the left and right wheels while estimating the normal difference of the rotation speeds between the wheels on both sides from the vehicle speed and steering wheel angle.
If the system senses a difference between the values measured and estimated, which commonly indicates a low pressure, it diagnoses a possibility of a flat tire.

NOTE:
- The TWS monitors the imbalance of the speed between the wheels. Therefore, the system does not blink the indicator light when the tire air pressure of the four wheels decreased simultaneously.
- The TWS may blinks indicator light when the tire chains are installed on the wheels, when being towed with a trailer or under other conditions when there are the significant differences in speed between the wheels.
  Return the car to the original condition, restart the engine and test drive the car. The tire air pressure is normal if the TWS indicator light does not blink.



Self-diagnosis Function

When the TWS is faulty, it turns the TWS indicator light on. Also, the TCS indicator light is turned on simultaneously. Therefore, the problem can be checked by the TCS code.

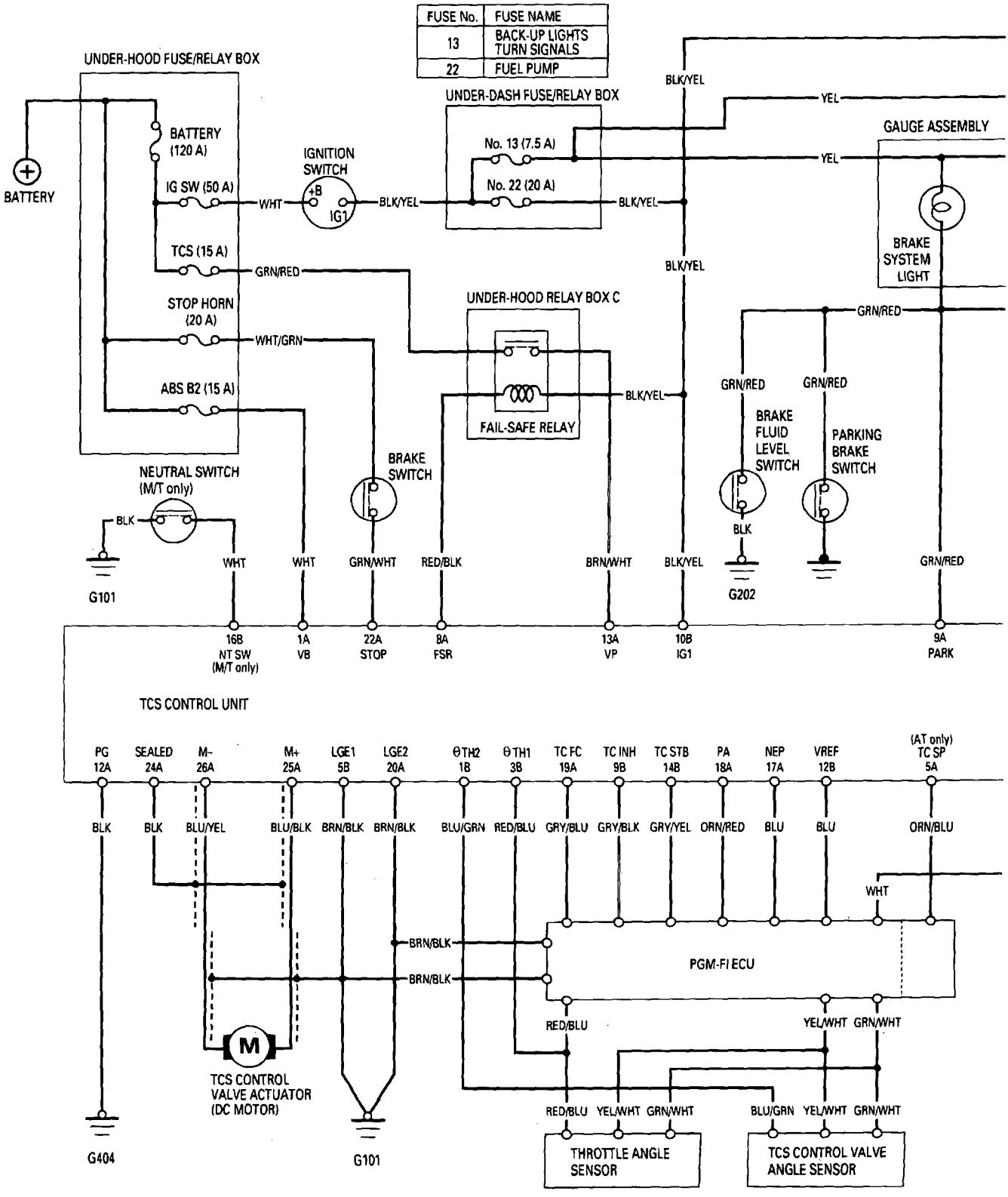
Reset of TWS (For Proper Operation of TWS)

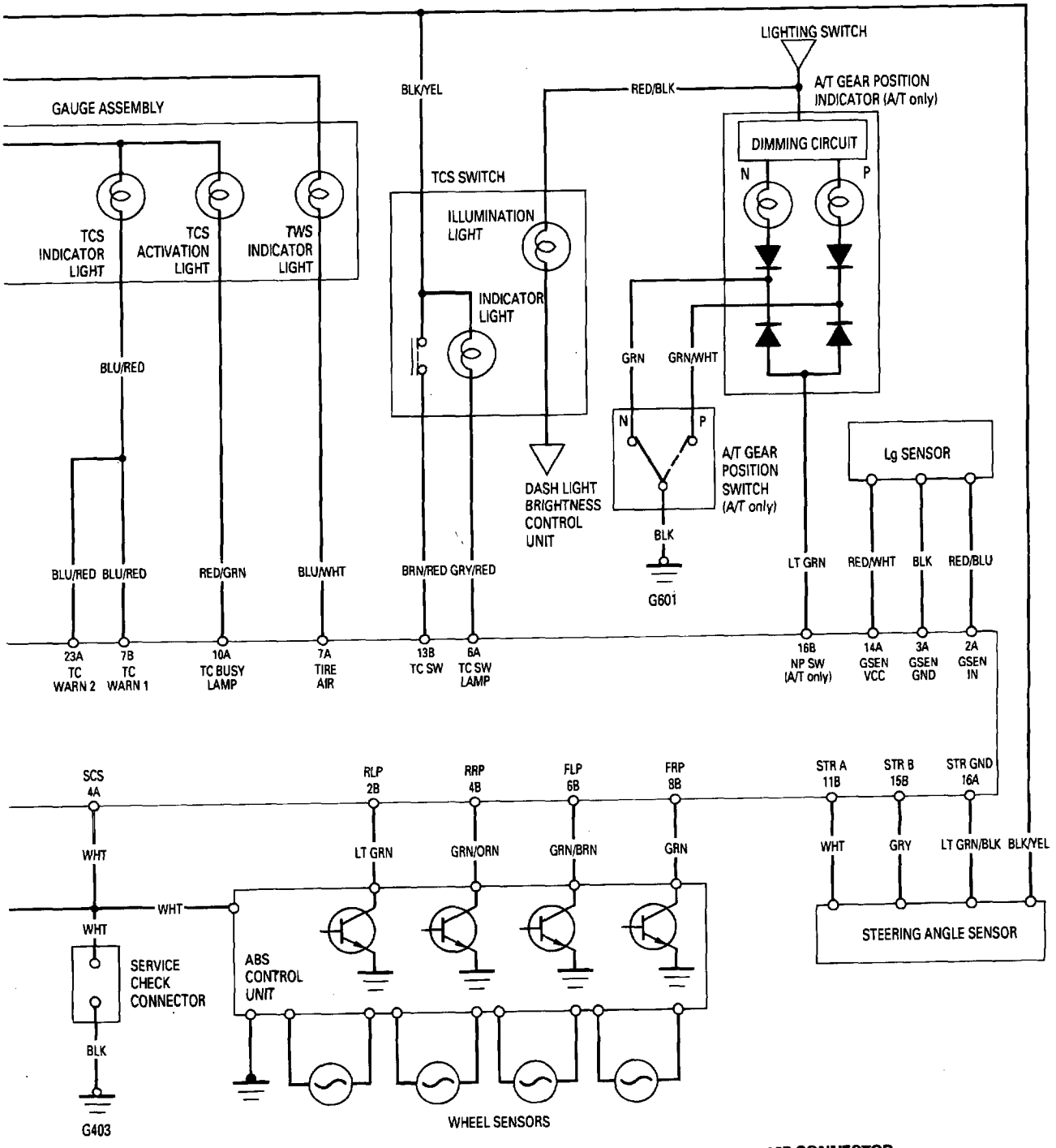
The standard wheel speeds memorized in the TWS control unit must be initialized and new standard wheel speeds must be inputted into the control unit after the following:
- tire air pressure adjustment
- tire change
- tire rotation
- other occasions when the wheel speeds change

Reset the standard wheel speeds as follows:
1. Shift the transmission into [N] (neutral) or [P] (parking) and set the parking brake.
2. Start the engine.
3. Push the TCS switch and hold it until the TWS indicator light turns on (for more than 5 seconds), then release it. (The TWS indicator light should go off.)

Input new standard wheel speeds as follows:
1. Connect the two terminals of the Service Check Connector with a jumper wire (see page 19-14) and make sure that the TWS indicator light comes on.
2. Drive the car at more than 10 mph (16 km/h) until the TWS indicator light goes off (for 1-10 minutes).
   (Input of the standard wheel speeds completes.)
3. Remove the jumper wire.

Circuit Diagram





TCS CONTROL UNIT CONNECTORS
View from terminal side

Troubleshooting (TCS)

TCS Indicator Light

NOTE:
After the engine is started, the TCS indicator light goes off and TCS switch indicator light comes on to indicate that the system is ready. If there is any abnormality in the system, the TCS indicator light stays on. Once the TCS switch is pushed, however, the TCS indicator light comes on and TCS switch indicator light goes off to indicate that the system is off.

Temporary Driving Conditions:

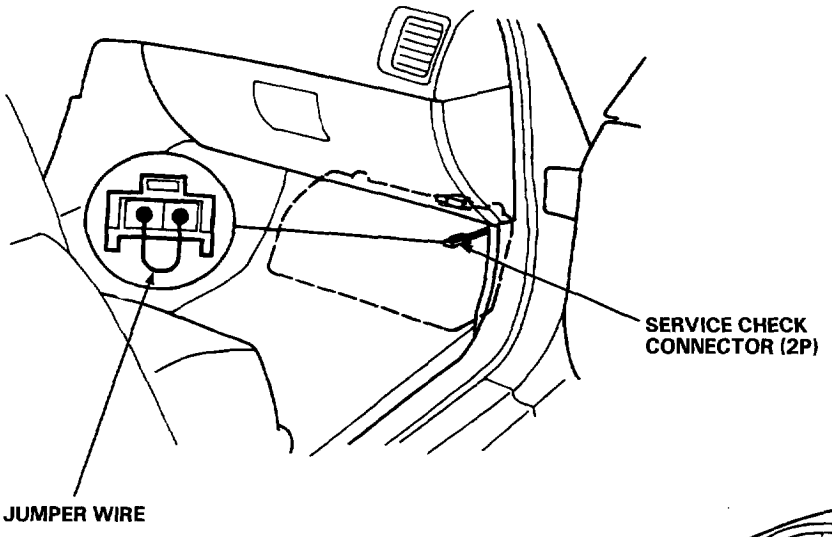
1. The TCS indicator light will come on and the control unit memorizes the Problem Code under certain temporary conditions:
   - The spare tire is installed, or a tire of the improper size is installed.
   - The tire pressures are not correct.

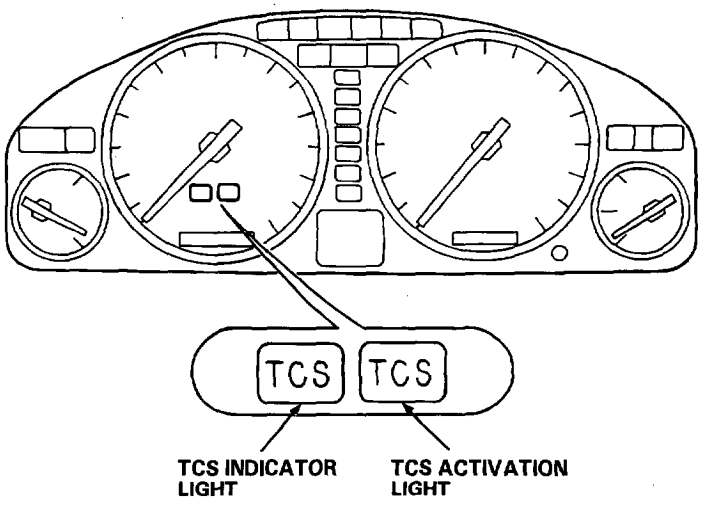
2. If the TCS indicator light does not come back on after correcting the tire or tire pressure problem, the system is OK.

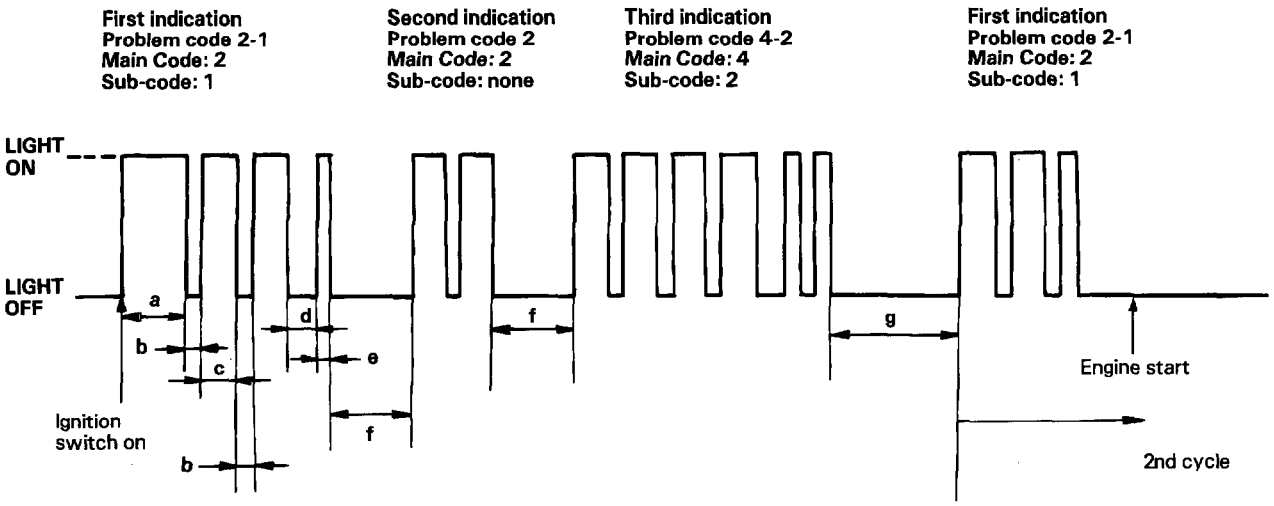
   NOTE:
   Remove the ABS B2 (15A) fuse for at least three seconds to clear the code from the TCS control unit memory.

TCS Problem Code Indication:

1. Stop the engine.
2. Turn the ignition switch on and confirm that the TCS indicator light comes on.
3. Turn the ignition switch off.
4. Connect the two terminals of the Service Check Connector with a jumper wire.
5. Turn the ignition switch on, but do not start the engine.
6. Record the blinking frequency of the TCS indicator light. The blinking frequency indicates the code. Long blinks indicate the main code; short blinks indicate the sub-code.
7. Refer to the Troubleshooting Guide (page 19-16) for repair information.







a: 2.0 sec. c: 1.2 sec. e: 0.3 sec. g: 3.8 sec.
b: 0.5 sec. d: 1.0 sec. f: 2.5 sec.

NOTE:

- The TCS control unit has three memory registers. When a problem occurs, the control unit stores the code in the first memory register. If another problem occurs, the control unit moves the first code to the next memory register and stores the second code in the first register. If there's a third problem occurrence, the two existing codes are moved up one register and the third code is stored in the first register. If problems continue to occur, the oldest code is moved out of the last register and lost, and the most recent code is stored in the first register.
- The TCS indicator light will not come on again after the engine starts unless another prblem occurrence is detected. However, there will still be a code stored in the control unit's memory.
- After the repair is completed, disconnect the jumper wire from the Service Check connector and remove the ABS B2 (15A) fuse from the under-hood fuse/relay box for at least 3 seconds to erase the control unit's memory.
- The control unit's memory is erased if the connector is disconnected from the control unit, or if the control unit is removed from the car.
- After recording the main and sub-code (if applicable), refer to the Troubleshooting Guide.

Troubleshooting (TCS)

Troubleshooting Guide

Problem code (DTC)	System indicated	Page	Related Components																		
			TCS (15A) fuse	ABS B2 (15A) fuse	No.13 (7.5A) fuse	No.22 (20A) fuse	Parking brake switch	Charging system	Fail-safe relay	TCS control valve assembly	TCS control valve actuator	TCS control valve angle sensor	Throttle angle sensor	Steering angle sensor	Lg sensor	PGM-FI ECU	PGM-FI/AT ECU	ABS control unit	Wire harness	TCS control unit
—	The TCS indicator light, TCS activation light and TCS switch indicator light do not come on when the ignition switch is turned ON.	19-17		○	○	○													○	○
—	The TCS switch indicator light and the TCS activation light do not go off two seconds after the ignition switch is turned ON.	19-20																	○	○
—	The TCS indicator light does not go off after the engine starts.	19-21														○	○		○	○
1-2	TCS control unit	19-24																		○
2	Parking brake	19-25					○												○	○
2-1	Steering angle sensor	19-26												○					○	○
2-3	Lg sensor	19-30													○				○	○
3-1	PGM-FI system	19-33														○	○		○	○
3-2	Engine speed (NEP) signal	19-39														○	○		○	○
3-4	Abnormal reference voltage (VREF) signal	19-41														○	○		○	○
3-5	Abnormal Atmospheric pressure (PA) sensor signal	19-43														○	○		○	○
3-6	Abnormal throttle angle (θ TH1) sensor signal	19-45											○			○	○		○	○
3-7	Abnormal TCS control valve angle sensor (θ TH2) signal	19-46										○				○	○		○	○
4-1	Right front wheel sensor	19-48																○	○	○
4-2	Left front wheel sensor																	○	○	○
4-4	Right rear wheel sensor																	○	○	○
4-8	Left rear wheel sensor																	○	○	○
4-9	All wheel sensors	19-51																○	○	○
5-1	Abnormal fail-safe relay, TCS control valve actuator and/or TCS control valve assembly	19-53	○						○	○	○	○							○	○
5-2	TCS control valve actuator does not operate normally due to low voltage	19-59						○											○	○
5-3	Abnormal back-up voltage (VB)	19-60						○											○	○
6-1	PGM-FI/AT electronic control unit (ECU)	19-61															○		○	○

TCS Lights Do Not Come On

The TCS indicator light, TCS activation light and TCS switch indicator light do not come on for two seconds when the ignition switch is first turned on (no bulb check).

NOTE:
The TCS indicator light stays on until the engine is started.

Turn the ignition switch ON.

Do the other indicator lights (ABS, Check Engin Light, SRS, etc.) come on?

NO → Turn the ignition switch OFF.

Check the No. 13(7.5A) fuse in the under-dash fuse/relay box.

Is it normal?

NO → **Replace the fuse and recheck.**

YES

Repair open in the YEL wire between the under-dash fuse /relay box and gauge assembly.

YES

Turn the ignition switch OFF.

Disconnect the 26P and 16P connectors from the TCS control unit

Turn the ignition switch ON.

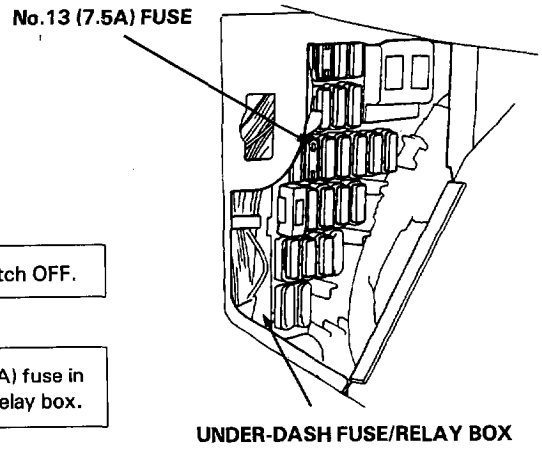
Ground the following terminals individually to the body ground and check the lights:
TCS indicator light: 26P connector, terminal 23A or 16 P connector, terminal 7B
TCS activation light: 26P connector, terminal 10A
TCS switch indicator light: 26 P connector, terminal 6A

Do all the lights come on?

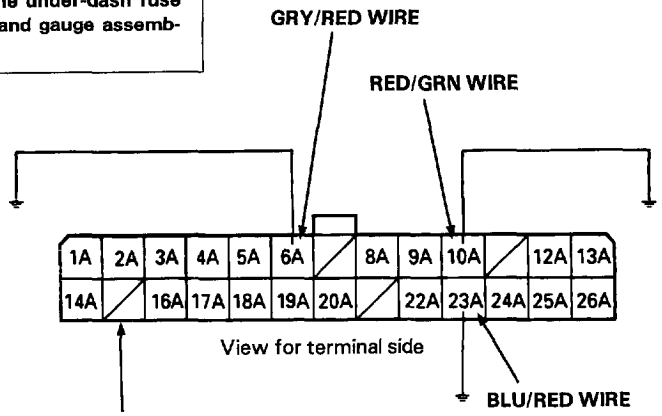
NO →
- **Replace the defective bulb.**
- **Repair open in the wire between the TCS control unit and gauge assembly or TCS switch.**
  TCS indicator light: BLU/RED wire
  TCS activation light: RED/GRN wire
  TCS switch indicator light: GRY/RED wire

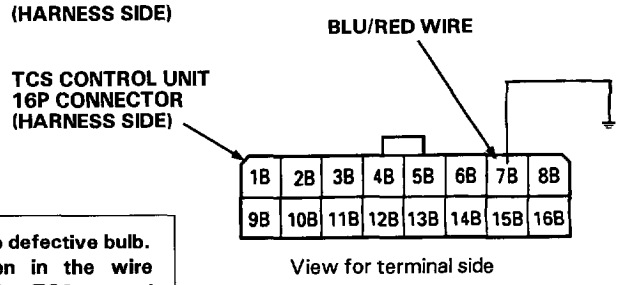
YES

(To page 19-18)



UNDER-DASH FUSE/RELAY BOX



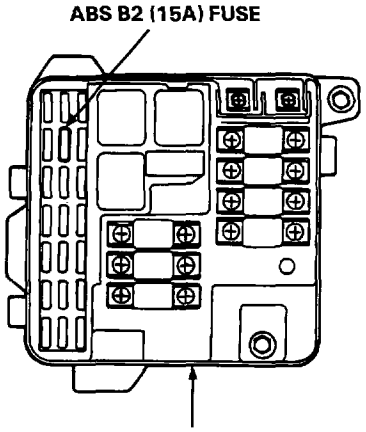


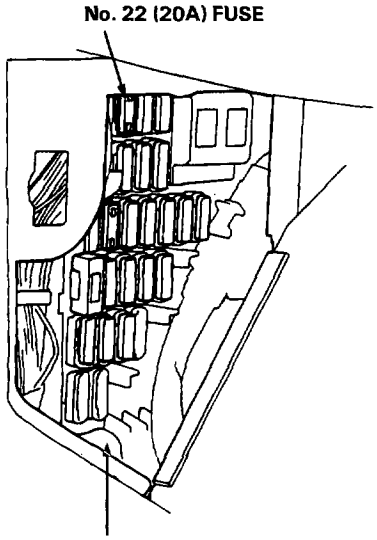
(cont'd)

TCS Lights Do Not Come On (cont'd)

(From page 19-17)

Check the ABS B2 (15A) fuse in the under-hood fuse/relay box and the No. 22 (20A) fuse in the under-dash fuse/relay box.



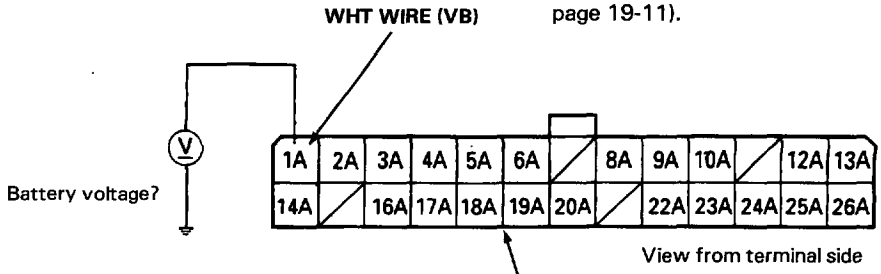


Are they normal? — NO → **Replace the ABS B2 (15A) fuse and/or No. 22 (20A) fuse and recheck.**

YES

Measure the voltage between the 26P connector terminal 1A (+) and body ground.

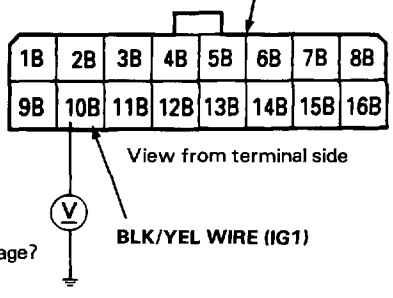
NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).



Is there battery voltage? — NO → **Repair open in the WHT wire between the TCS control unit and under-hood fuse/relay box.**

YES

Measure the voltage between the 16P connector terminal 10 B (+) and body ground.



Is there battery voltage? — NO → **Repair open in the BLK/YEL wire between the TCS control unit and under-dash fuse/relay box.**

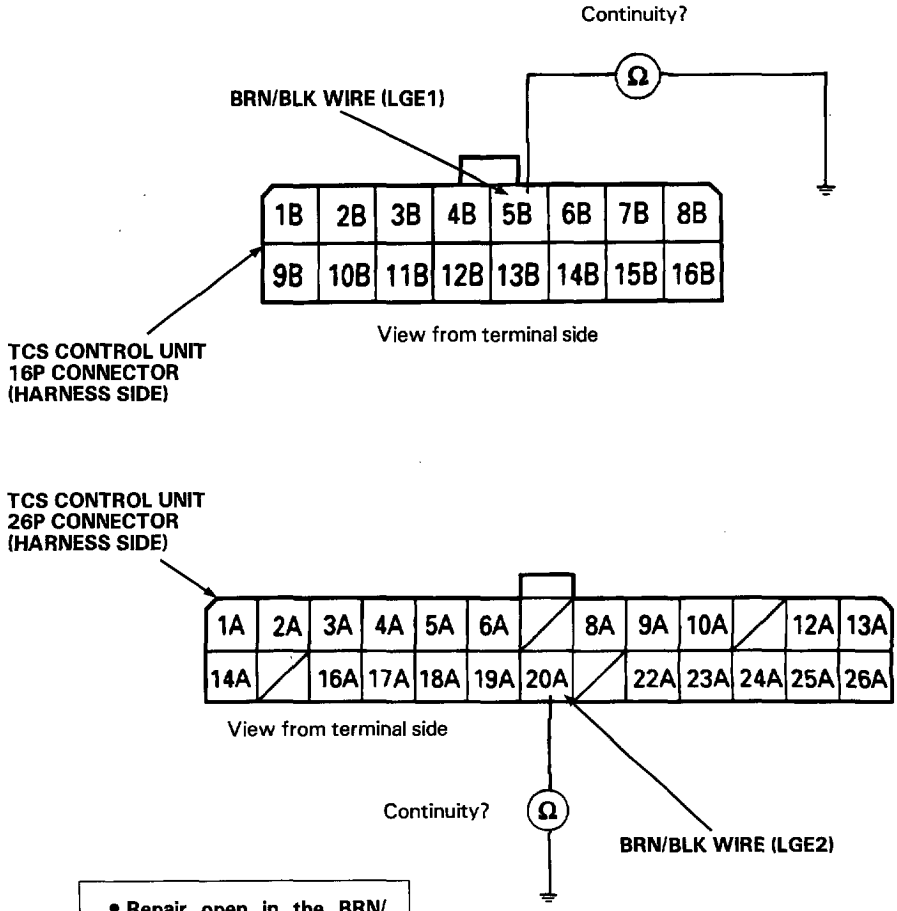
YES

(To page 19-19)

(From page 19-18)

Turn the ignition switch OFF.

Check for continuity between the 16P connector terminal 5B and body ground, and between the 26P connector terminal 20 A and body ground.



Is there continuity?

NO

- **Repair open in the BRN/BLK wire between the TCS control unit and body ground.**
- **Repair poor ground (G101).**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

Troubleshooting (TCS)

TCS Switch and Activation Lights Do Not Go Off

The TCS switch indicator light and the TCS activation light do not go off two seconds after the ignition switch is turned on.

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit.

Turn the ignition switch ON.

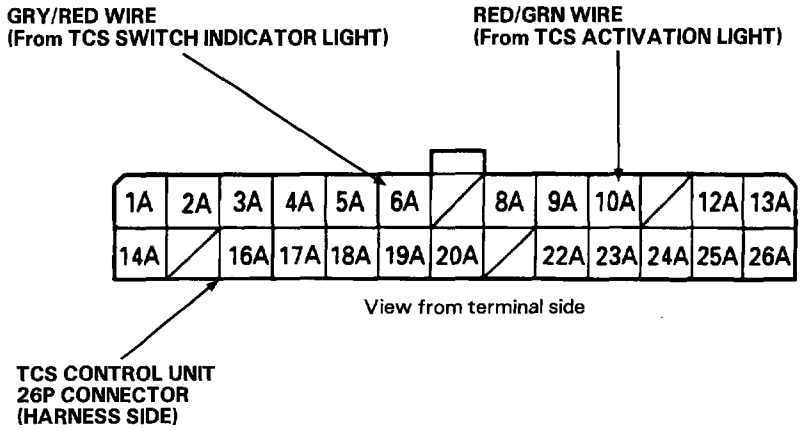
Do the lights go off?

NO

Repair short in the RED/GRN wire between the TCS control unit and gauge assembly, and in the GRY/RED wire between the TCS control unit and TCS switch.

YES

Substitute a known-good TCS control unit and recheck.



TCS Indicator Light Does Not Go Off

The TCS indicator light does not go off after the engine starts.

NOTE:
- When the engine is started, a system check is performed. The TCS indicator light will go off if the system is normal.
- If the back-up power supply is less than 8V to the TCS control unit 26P connector terminal 1A, the system check is stopped and TCS indicator light comes on.

Turn the ignition switch ON.

Do the TCS switch indicator and TCS activation lights stay on after 2 seconds?
- NO → (See page 19-17)
- YES

Start the engine.

Check the Check Engine Light.

Is the light on?
- YES → **Perform the PGM-FI system *troubleshooting procedure* (see section 11) and recheck.**
- NO

Confirm the PGM-FI system Problem Code (see section 11).

Are codes 35 and/or 36 indicated?
- YES → **Perform the troubleshooting procedures for Problem Code 3-1 (see page 19-33)**
- NO

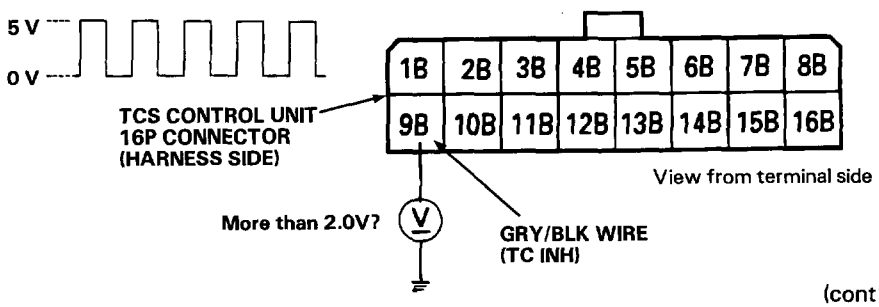
Start the engine.

Measure the voltage between the TCS control unit 16P connector terminal 9B (+) and body ground.

(To page 19-22)

NOTE:
- Problem Code 35: A short or open circuit in the GRY/YEL wire between the TCS control unit 16P connector terminal 14B (TC STB) and ECU.
- Problem Code 36: A short or open circuit in the GRY/BLU wire between the TCS control unit 26P connector terminal 19A (TC FC) and ECU.

NOTE:
- Use the 10V range or a similar range in the analog tester.
- Confirm that the analog tester needle swings to more than 2.0V.



(cont'd)

Troubleshooting (TCS)

TCS Indicator Light Does Not Go Off (cont'd)

(From page 19-21)

Is there more than 2.0V?
- YES → Turn the ignition switch OFF.
- NO → Turn the ignition switch OFF.

Turn the ignition switch OFF.

Disconnect the 26P and 16P connectors from the TCS control unit.

Turn the ignition switch ON.

Is the TCS indicator light on?
- YES → **Repair short in the BLU/RED wire between the TCS control unit and gauge assembly.**
- NO → **Substitute a known-good TCS control unit and recheck.**

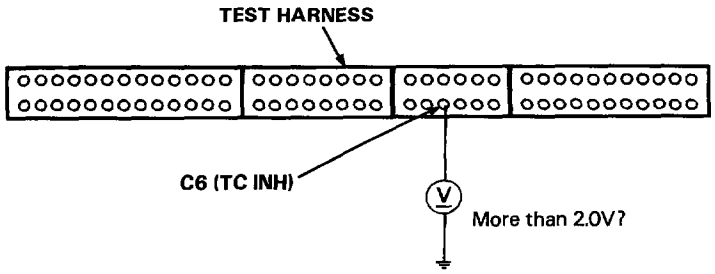
NOTE:
- Use the 10V range or a similar range in the analog tester.
- Confirm that the analog tester needle swings to more than 2.0V.

Turn the ignition switch OFF.

Connect the test harness to the ECU (see section 11).

Start the engine.

Measure the voltage between the test harness C6 (+) terminal and body ground.



Is there more than 2.0V?
- YES → **Repair open in the GRY/BLK wire between the TCS control unit and ECU.**
- NO → Turn the ignition switch OFF.

(To page 19-23)

(From page 19-22)

Disconnect the 12P connector from the ECU and the 16P connector from the TCS control unit.

Check for continuity between the 16P connector terminal 9B and body ground.

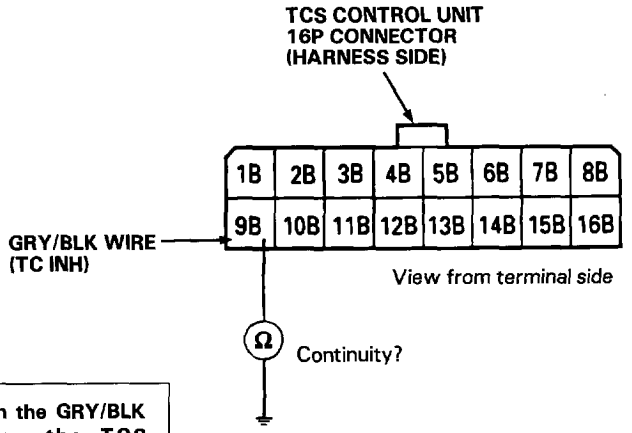
Is there continuity?

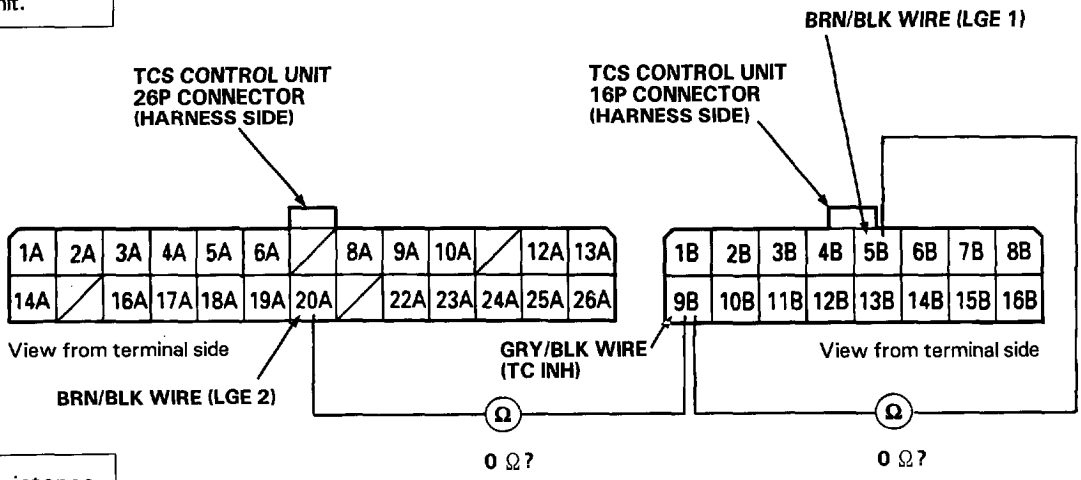
YES

Repair short in the GRY/BLK wire between the TCS control unit and ECU.

NO

Reconnect the 16P connector to the TCS control unit.





Measure the resistance between the TCS control unit 16P connector terminal 9B and 26P connector terminal 20A or 16P connector terminal 5B.

Is there 0Ω?

YES

Replace the TCS control unit and recheck.

NO

- **Check for poor connection or loose wire.**
- **Substitute a known-good ECU and recheck.**

NOTE:
The normal resistance is approx. 20 kΩ for reference.

TCS Control Unit

Problem Code 1-2 or the TCS indicator light stays on: TCS control unit

NOTE:
- If the indicator light indicates Problem Code 1-2, replace the TCS control unit.
- If the TCS indicator light stays on, check for a short to body ground in the BLU/RED wire between the TCS control unit and the TCS indicator light. If the wire is OK, replace the TCS control unit.

Parking Brake Signal

Problem Code 2: Parking brake signal

NOTE:
- Before proceeding to the troubleshooting procedure, be sure to perform a running test and check whether the TCS indicator light comes on or not. If the TCS indicator light does not come on, the system is working properly. If the TCS indicator light comes on, make sure the parking brake lever is released.
- When both of the rear wheels are running at 6 mph (10 km/h) or over and the parking brake is applied for more than 30 seconds continuously, the TCS control unit will cause the TCS indicator light to come on.

Release the parking brake lever and turn the ignition switch ON.

Check the brake system light.

Does the light come on?

YES → Check the brake fluid level.

Is the level low?

NO → **Check the parking brake switch and brake fluid level switch. If they are OK, repair short in GRN/RED wire.**

YES → **Check the brake pad wear and fluid leakage.**

NO → Pull up the parking brake lever.

Check the brake system light.

Does the light come on?

NO → Release the parking brake lever.

Measure the voltage between the parking brake switch connector terminal and body ground.

Is there battery voltage?

NO → **Check the brake system light bulb. If it is OK, repair open in the GRN/RED wire between the parking brake switch and gauge assembly.**

YES → **Check the parking brake switch.**

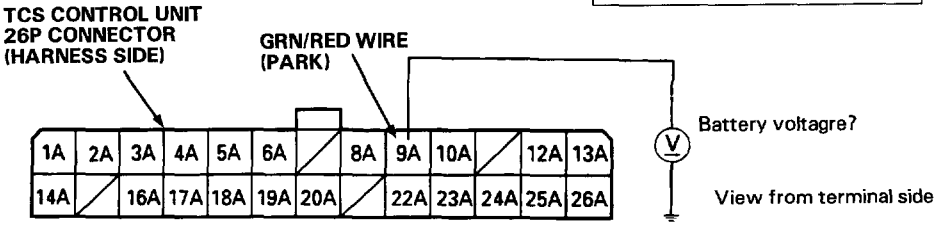
YES → Release the parking brake lever.

Measure the voltage between the TCS control unit terminal 9A (+) and body ground.

Is there battery voltage?

NO → **Repair open in the GRN/RED wire between the TCS control unit and gauge assembly.**

YES →
- **Substitute a known-good TCS control unit and recheck.**
- ***Check for poor connections or loose wires.***



Troubleshooting (TCS)

Steering Angle Sensor

Problem Code 2-1: Steering angle sensor

NOTE:
The TCS control unit performs the self-diagnosis for the steering angle sensor when the average speed of the two rear wheels exceeds 10 mph (16 km/h). The TCS indicator light comes on if a yaw rate is generated and the steering angle signal that corresponds to this yaw rate is not inputted when the steering wheel is turned, while there is no input from the STOP (brake light signal) and PARK (parking brake signal).

Start the engine.

1. Push the TCS switch 3 times within 3 seconds.

2. Turn the steering wheel slowly clockwise more than 1.5 turn.

3. Push the TCS switch 2 times within 3 seconds.

4. Return the steering wheel counterclockwise slowly, check the number of times the TCS indicator light flashes *after* the wheel has moved approximately one turn.

Does the light flash properly?
A/T: 1 time
M/T: 4 times

YES → **The tire pressures are incorrect or the wrong diameter tires are installed. The steering angle sensor is OK.**

NO

Turn the ignition switch OFF.

Remove the steering column lower cover.

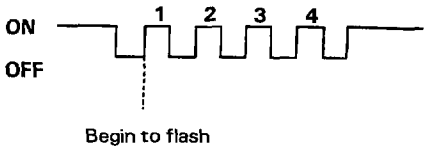
(To page 19-27)

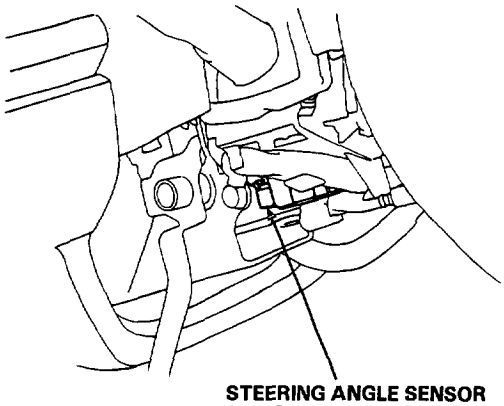
NOTE:
- Steps 1 through 4 are the steering angle sensor check procedures for actual vehicle operating conditions.
  This will be called the "steering angle sensor system check" in the following sections.
- The standard wheel speeds (initial offset memory) is erased when the TCS switch is pushed for more than 5 seconds. If the standard wheel speeds value is erased, be sure to input it again after inspection (see page 19-11).

NOTE:
- Restart the check from the beginning if the steering wheel is turned counterclokwise.
- Turn the steering wheel slowly, no faster than one turn in 4 seconds.

NOTE:
- Restart the check from the beginning if the steering wheel is turned counterclockwise.
- Turn the steering wheel slowly, no faster than one turn in 4 seconds.

TCS INDICATOR LIGHT FLASH PATTERN





(From page 19-26)

Turn the ignition switch ON.

Measure the voltage between the No.1 (+) and No.5(−) terminals of the steering angle sensor.

Is there battery voltage?

NO

Turn the ignition switch OFF.

Disconnect the 5P connector from the steering angle sensor.

Check for continuity between the No.5 terminal and body ground.

Is there continuity?

NO

Repair open in the LT GRN/BLK wire between the steering angle sensor and TCS control unit.

YES

Turn the ignition switch ON.

Measure the voltage between the No.1 terminal (+) and body ground.

Is there battery voltage?

NO

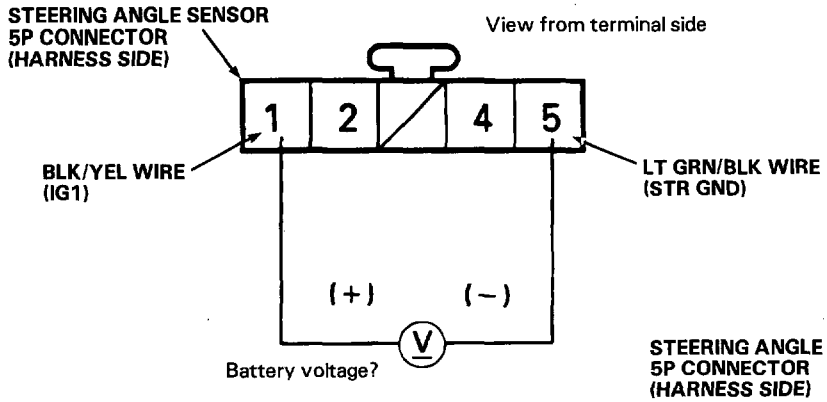
Repair open or short in the BLK/YEL wire between the under-dash fuse/relay box and steering angle sensor.

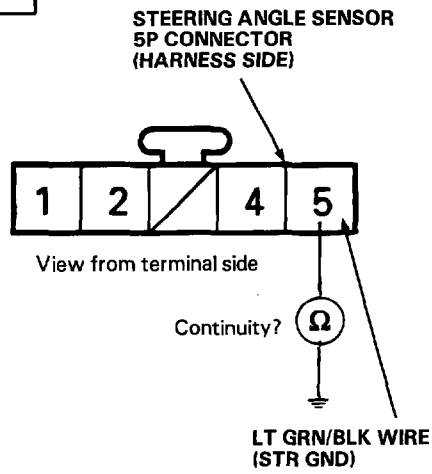
YES

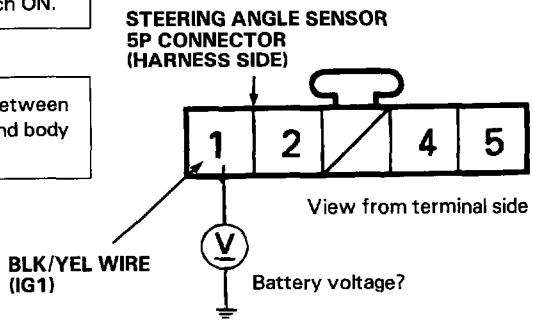
Replace the steering angle sensor (see page 19-75)

YES

(To page 19-28)







(cont'd)

Steering Angle Sensor (cont'd)

(From page 19-27)

Connect the voltmeter between the steering angle sensor terminals:
No.2(+) and No.5(−): STR B
No.4(+) and No.5(−): STR A

Turn the steering wheel slowly one revolution.

Does the needle pulse 4.5V→0 V→4.5V→0V repeatedly?

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

NO

Turn the ignition switch OFF.

Disconnect the 5P connector from the steering angle sensor.

Turn the ignition switch ON.

Measure the voltage between the steering angle sensor connector terminals (+) and body ground:
No.2: STR B
No.4: STR A

Is there more than 4.5V?

YES

Check for a poor connection. If the connection is OK, replace the steering angle sensor (see page 19-75)

NO

Measure the voltage between the TCS control unit terminals (+) and body ground:
No.15B: STR B
No.11B: STR A

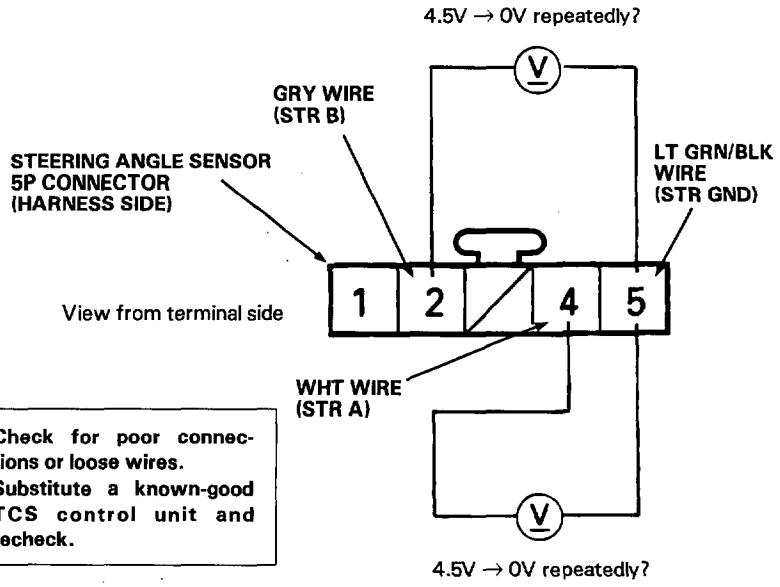
Is there more than 4.5V?

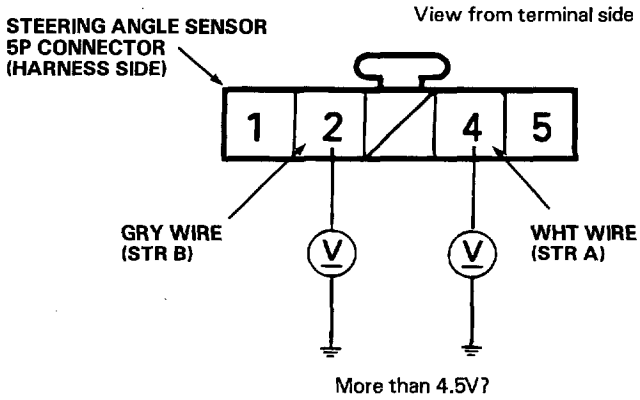
YES

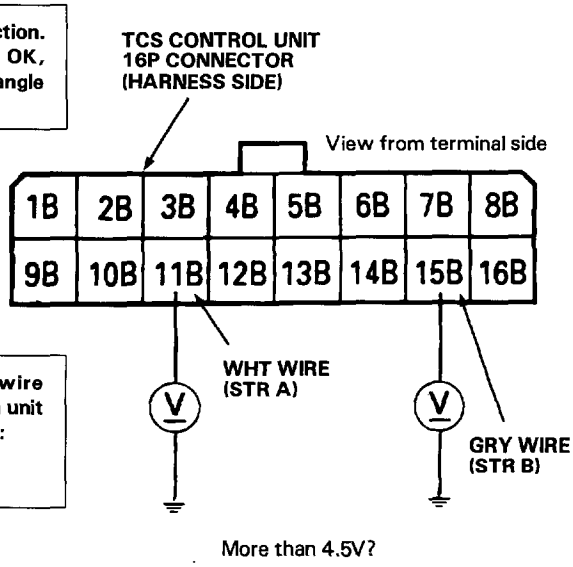
Repair open in the wire between the TCS control unit and steering angle sensor:
GRY: STR B
WHT: STR A

NO

(To page 19-29)







(From page 19-28)

Turn the ignition switch OFF.

Disconnect the 16P connector from the TCS control unit.

Check for continuity between the 16P connector terminals and body ground:
No.15B: STR B
No.11B: STR A

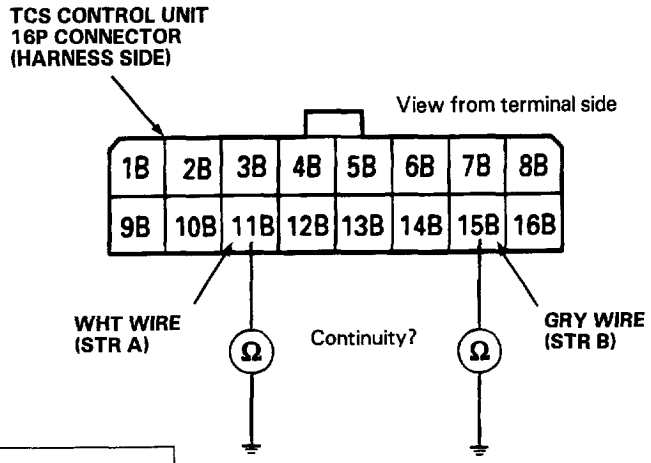
Is there continuity?

YES

Repair short in wire between the TCS control unit and steering angle sensor:
GRY: STR B
WHT: STR A

NO

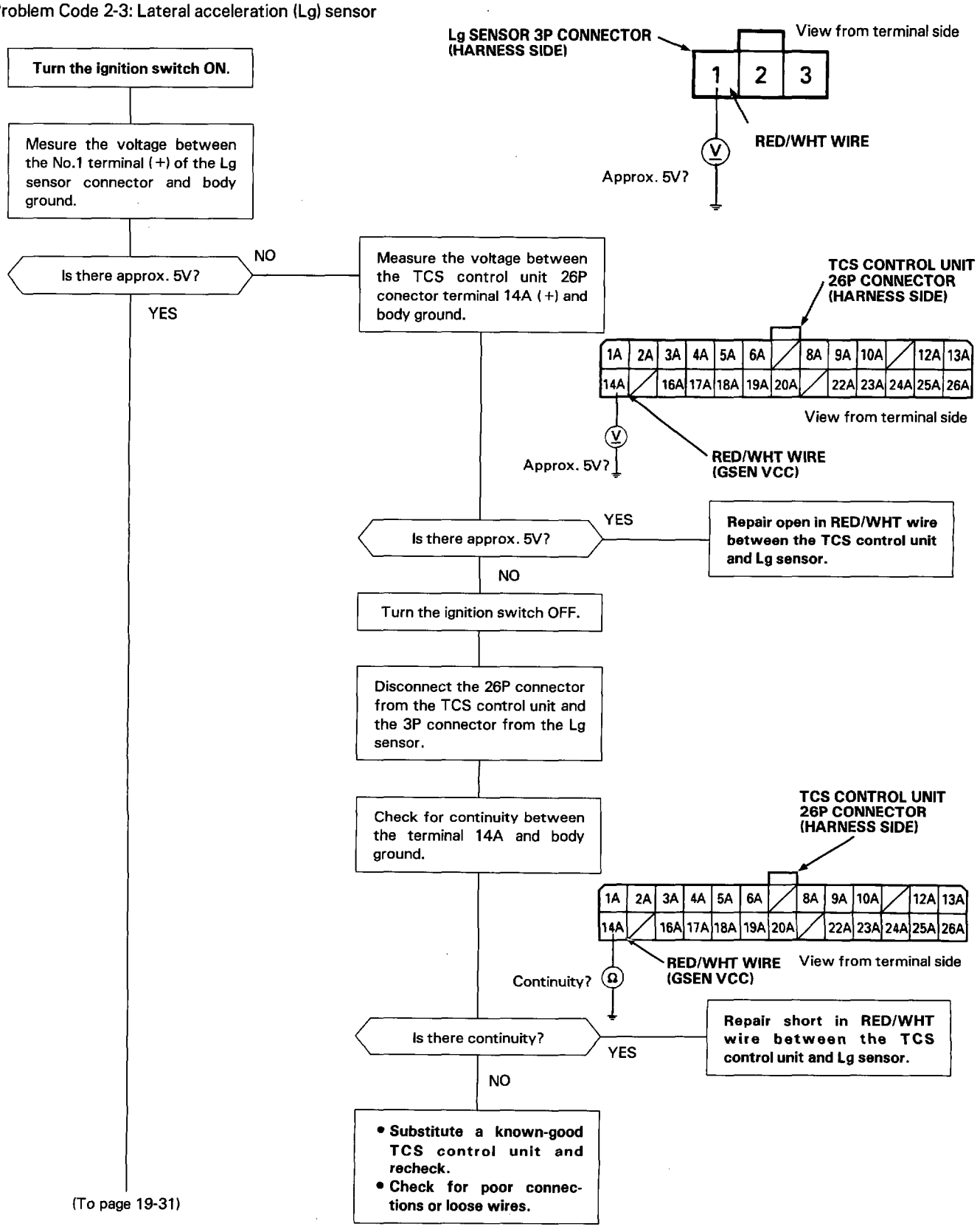
- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**



Troubleshooting (TCS)

Lateral Acceleration (Lg) Sensor

Problem Code 2-3: Lateral acceleration (Lg) sensor



(From page 19-30)

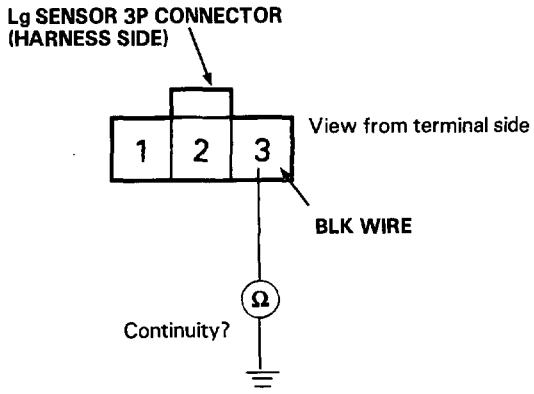
Turn the ignition switch OFF.

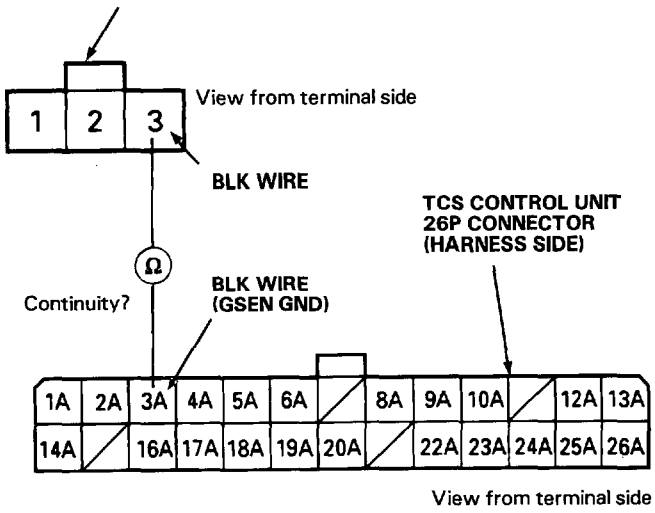
Check for continuity between the Lg sensor 3P connector No.3 terminal and body ground.

Is there continuity?

NO

YES





Disconnect the 26P connector from the TCS control unit and 3P connector from the Lg sensor.

Check the BLK wire for continuity between the TCS control unit and Lg sensor.

Is there continuity?

NO

Repair open in the BLK wire between the TCS control unit and Lg sensor.

YES

- **Substitute a known-good TCS control unit and recheck.**
- **Check for poor connections or loose wires.**

(To page 19-32)

(cont'd)

Troubleshooting (TCS)

Lateral Acceleration (Lg) Sensor (cont'd)

(From page 19-31)

Turn the ignition switch ON.

Measure the voltage between the No.2 terminal (+) of the Lg sensor connector and body ground.

Is there approx. 2.5V?

NO

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit and the 3P connector from the Lg sensor.

Check for continuity between the No.2 terminal and body ground.

Is there continuity?

YES

Repair short in RED/BLU wire between the TCS control unit and Lg sensor.

NO

Replace the Lg sensor.

YES

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit and the 3P connector from the Lg sensor.

Check the RED/BLU wire for continuity between the TCS control unit and the Lg sensor.

Is there continuity?

NO

Repair open in RED/BLU wire between the TCS control unit and Lg sensor.

YES

Check the Lg sensor function (see page 19-75)

Does it work properly?

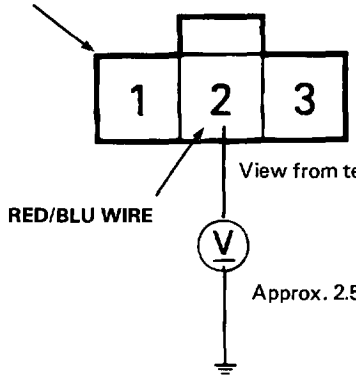
YES

- **Substitute a known-good TCS control unit and recheck.**
- **Check for poor connections or loose wires.**

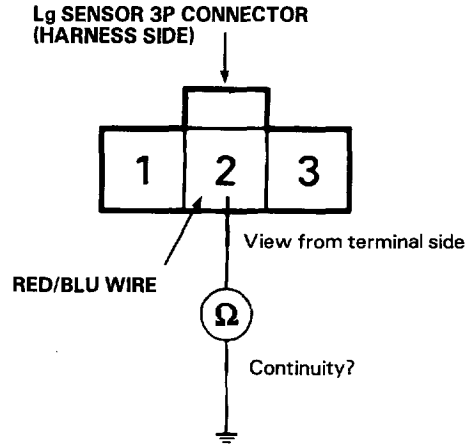
NO

Replace the Lg sensor.

Lg SENSOR 3P CONNECTOR (HARNESS SIDE)



Lg SENSOR 3P CONNECTOR (HARNESS SIDE)



PGM-FI Signals

Problem Code 3-1: PGM-FI (TC STB, TC FC and TC INH signals)

NOTE:
The ECU outputs the TC INH signal to the TCS control unit when the correct TC STB and TC FC signals have been inputted to the ECU from the TCS control unit.

Remove the No.15 (7.5A) fuse in the under-hood fuse/ relay box for more than 10 seconds to reset the ECU.

Start the engine.

Confirm the PGM-FI system code (see section 11).

Are codes 35 (TC STB open or short circuit) and/or 36 (TC FC open or short circuit) indicated?

NO

Check the TC INH signal if no code is indicated (see page 19-37).

Perform the PGM-FI system troubleshooting procedure if codes other than 35 and 36 are indicated (see section 11).

YES

- **Check the TC STB signal when PGM-FI system code 35 is indicated (see below).**
- **Check the TC FC signal when PGM-FI system code 36 is indicated (see page 19-35).**

- **TC STB signal check**

Turn the ignition switch ON.

Measure the voltage between the TCS control unit 16P connector terminal 14B (+) and body ground.

Is there more than 4.0V?

NO

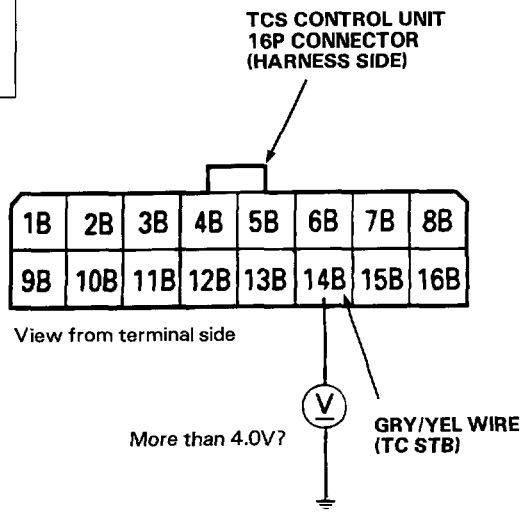
Turn the ignition switch OFF.

Disconnect the 12P connector from the ECU.

YES

(To page 19-34)

(To page 19-35)



(cont'd)

PGM-FI Signals (cont'd)

(From page 19-33)

Turn the ignition switch OFF.

Connect the test harness to the ECU (see section 11).

Turn the ignition switch ON.

Measure the voltage between the test harness C12 (+) terminal and body ground.

Is there more than 4.0V?

NO

Repair open in the GRY/YEL wire between the TCS control unit and ECU.

YES

Raise the car and support it with safety stands (see section 1).

Start the engine.

Shift the transmission into 2nd and depress the accelerator pedal slowly until a vehicle speed more than 12 mph (20 km/h) is reached.

Measure the voltage between the TCS control unit 16P connector terminal 14B (+) and body ground.

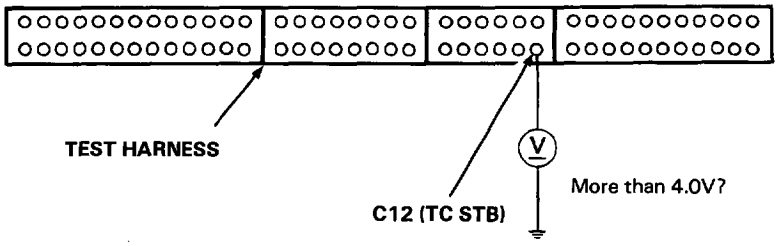
Is there 0 V? (TCS in operation.)

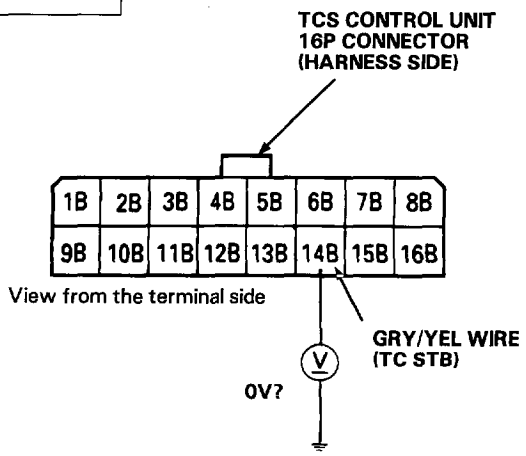
NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good ECU and recheck.**





(From page 19-33)

Turn the ignition switch ON.

Measure the voltage between the TCS control unit 16P connector termonal 14B (+) and body ground.

Is there more than 4.0V? YES → **Replace the ECU and recheck.**

NO

Turn the ignition switch OFF.

Disconnect the 16P connector from the TCS control unit.

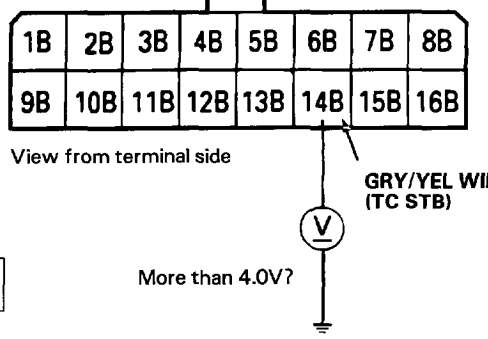
Check for continuity between the 16P connector terminal 14B and body ground.

Is there continuity? YES → **Repair short in the GRY/YEL wire between the TCS control unit and ECU.**

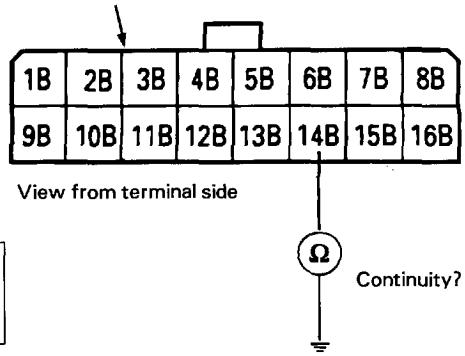
NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good *TCS control unit* and recheck.**

TCS CONTROL UNIT 16P CONNECTOR (HARNESS SIDE)



TCS CONTROL UNIT 16P CONNECTOR (HARNESS SIDE)



- **TC FC signal check**

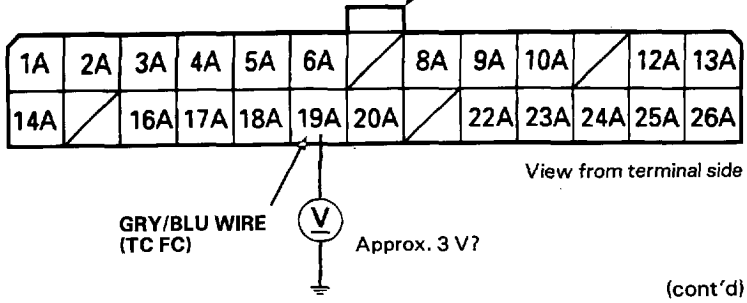
Turn the ignition switch ON.

Measure the voltage between the TCS control unit 26P connector terminal 19A (+) and body ground.

(To page 19-36)

NOTE:
- Use the 10V range or a similar range in the analog tester.
- Confirm that the analog tester needle swings to approx. 3 V.

TCS CONTROL UNIT 26P CONNECTOR (HARNESS SIDE)



(cont'd)

PGM-FI Signals (cont'd)

(From page 19-35)

Is there approx. 3V?

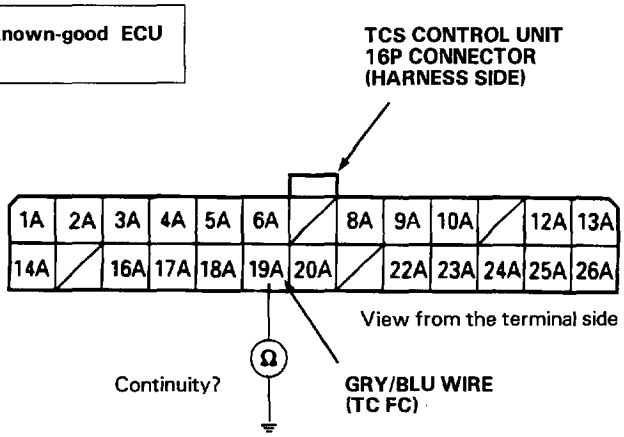
YES → **Substitute known-good ECU and recheck.**

NO

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit and the 12P connector from the ECU.

Check for continuity between the 26P connector terminal 19 A and body ground.



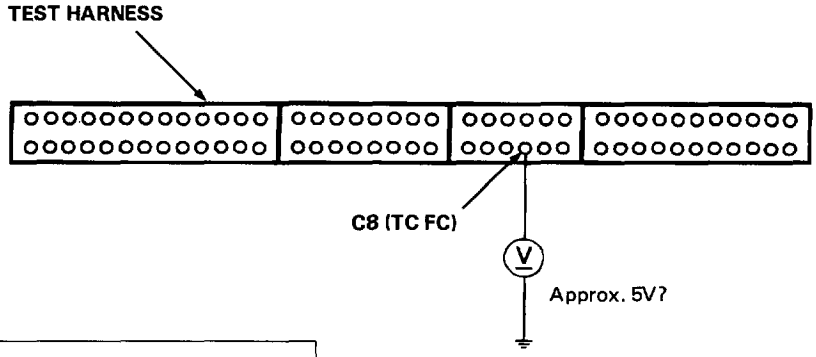
Is there continuity?

YES → **Repair short in the GRY/BUL wire between the TCS control unit and ECU.**

NO

Reconnect the 26P connector for the TCS control unit.

Connect the test harness to the ECU Wire harness side only (see section 11).



Turn the ignition switch ON.

Measure the voltage between the C8 terminal (+) of the test harness and body ground.

Is there approx. 5V?

NO → **Repair open in the GRY/BLU wire between the TCS control unit and ECU.**

YES

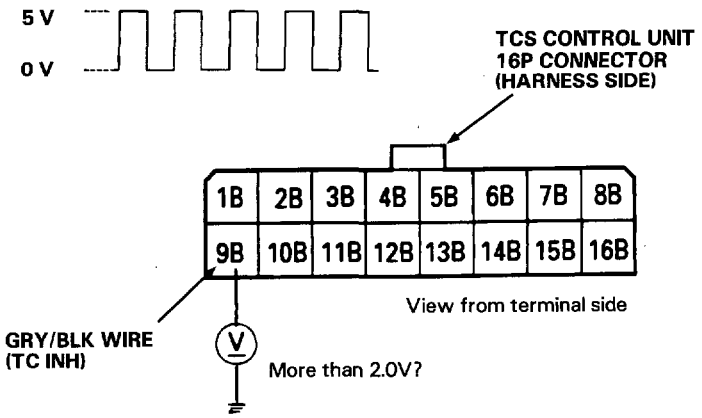
- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**
  If symptom does not go away, substitute a known-good ECU and recheck.

• TC INH signal check (Continued from page 19-33 if no PGM-FI system codes are indicated.)

Start the engine.

Measure the voltage between the TCS control unit 16P connector terminal 9B (+) and body ground.

NOTE:
- Use the 10V range or a similar range in the analog tester.
- Confirm that the analog tester needle swings to more than 2.0V.



Is there more than 2.0 V?

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

NO

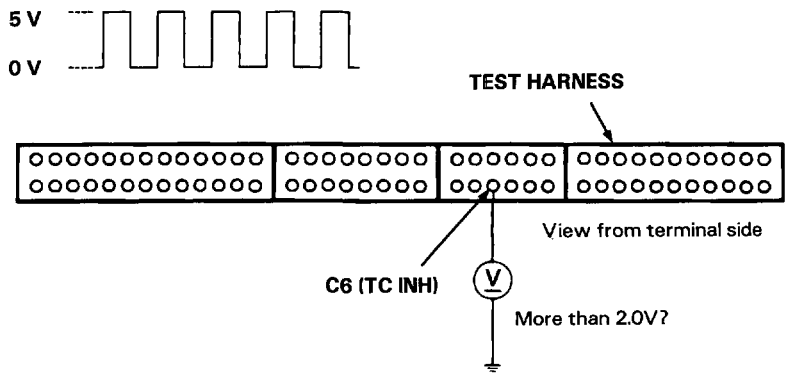
Turn the ignition switch OFF.

Connect the test harness to the ECU (see section 11).

Start the engine.

Measure the voltage between the test harness C6 terminal (+) and body ground.

NOTE:
- Use the 10V range or a similar range in the analog tester.
- Confirm that the analog tester needle swings to more than 2.0V.



(To page 19-38)

(cont'd)

PGM-FI Signals (cont'd)

(From page 19-37)

Is there more than 2.0V?

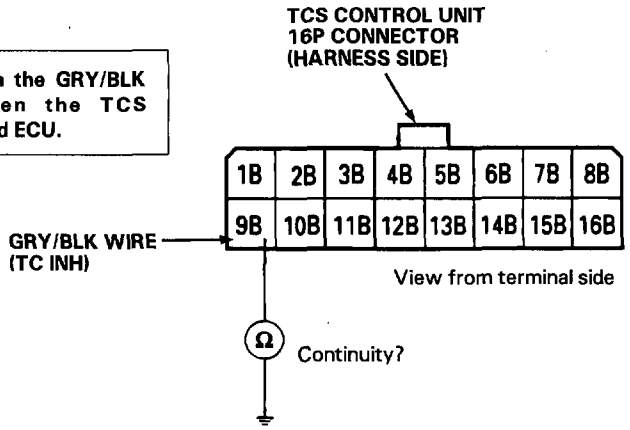
YES → **Repair open in the GRY/BLK wire between the TCS control unit and ECU.**

NO

Turn the ignition switch OFF.

Disconnect the 12P connector from the ECU and the 16P connector from the TCS control unit.

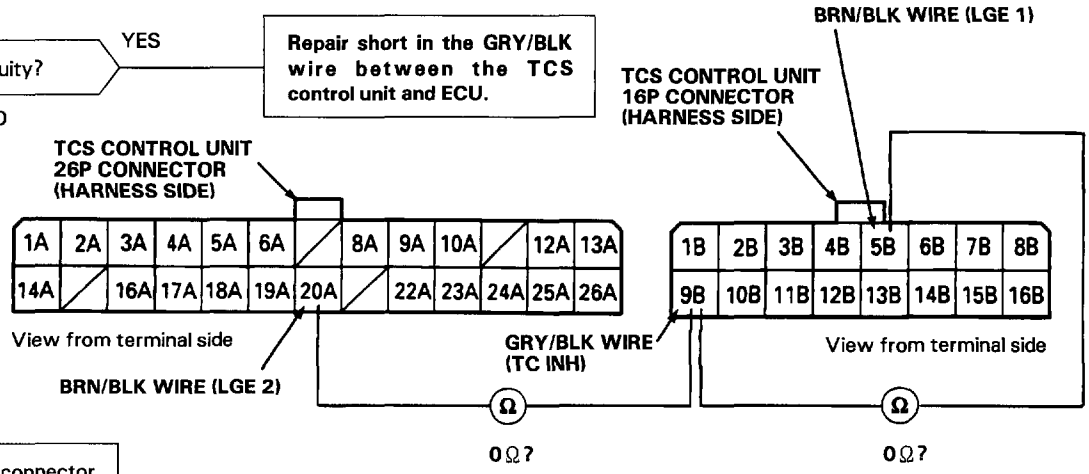
Check for continuity between the 16P connector terminal 9B and body ground.



Is there continuity?

YES → **Repair short in the GRY/BLK wire between the TCS control unit and ECU.**

NO



Reconnect the 16P connector to the TCS control unit.

Measure the resistance between the 16P connector terminal 9B and 26P connector terminal 20A or 16P connector terminal 5B of the TCS control unit.

Is there 0Ω?

YES → **Replace the TCS control unit and recheck.**

NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good ECU and rechek.**

NOTE:
The normal resistance is approx. 20 kΩ for reference.

Engine Speed (NEP) Signal

Problem Code 3-2: Engine speed (NEP) signal

Remove the ABS B2 (15 A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).

Start the engine.

Confirm the TCS code (see page 19-14).

Is code 3-2 indicated? NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Start the engine.

Check that the tachometer operates properly.

Does the tachometer operate properly? NO → Turn the ignition switch OFF.

YES

Connect the test harness to the ECU (see section 11).

Start the engine.

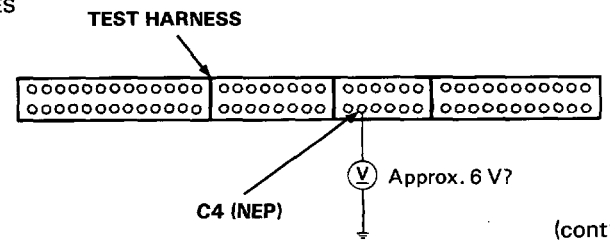
Measure the voltage between the C4 terminal (+) of the test harness and body ground.

Is there approx. 6 V? NO → **Check the PGM-FI system.**

YES

(To page 19-40)

NOTE:
- Use the 10 V range or a similar range in the analog tester.
- Check with the engine idling and warmed-up.
- Confirm that the analog tester needle swings to approx. 6 V.



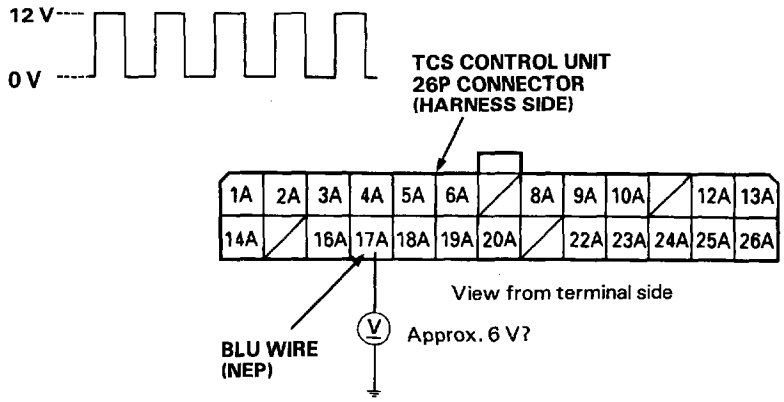
(cont'd)

Engine Speed (NEP) Signal (cont'd)

(From page 19-39)

Measure the voltage between the TCS control unit 26P connector terminal 17 A (+) and body ground.

NOTE:
- Use the 10 V range or a similar range in the analog tester.
- Check with the engine idling and warmed-up.
- Confirm that the analog tester needle swings to approx. 6 V?



Is there approx. 6 V?

NO → **Repair open in the BLU wire between the TCS control unit and ECU.**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

Reference Voltage (VREF) Signal

Problem Code 3-4: The 5 V standard voltage (VREF)

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).

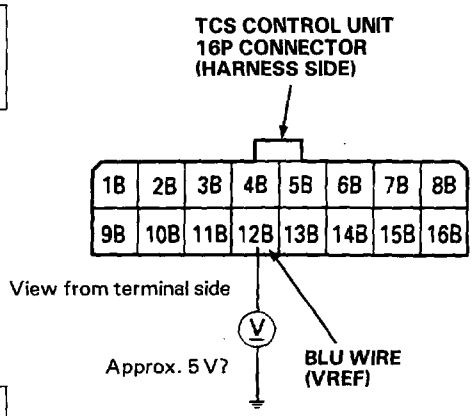
Start the engine.

Confirm the TCS code (see page 19-14)

Is code 3-4 indicated? NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Measure the voltage between the TCS control unit 16P connector terminal 12B (+) and body ground.



Is there approx. 5 V? YES →
- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

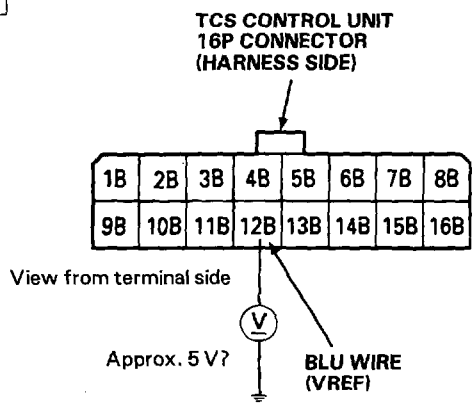
NO

Turn the ignition switch OFF.

Disconnect the 16P connector from the TCS control unit.

Turn the ignition switch ON.

Measure the voltage between the 16P connector terminal 12 B (+) and body ground.



Is there approx. 5 V? YES → **Replace the TCS control unit and recheck.**

NO

(To page 19-42)

(cont'd)

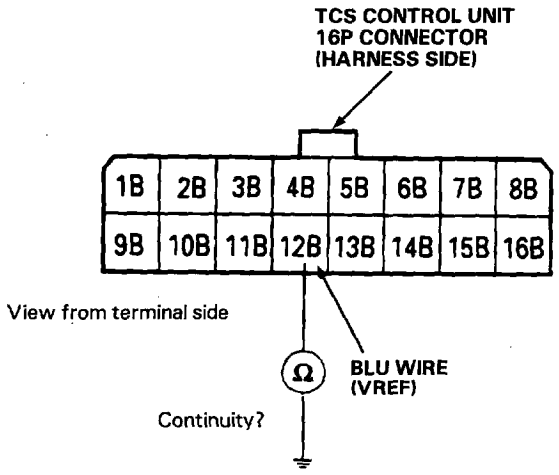
Reference Voltage (VREF) Signal (cont'd)

(From page 19-41)

Turn the ignition switch OFF.

Disconnect the 22P connector from the ECU.

Check for continuity between the TCS control unit 16P connector terminal 12B and body ground.



Is there continuity?

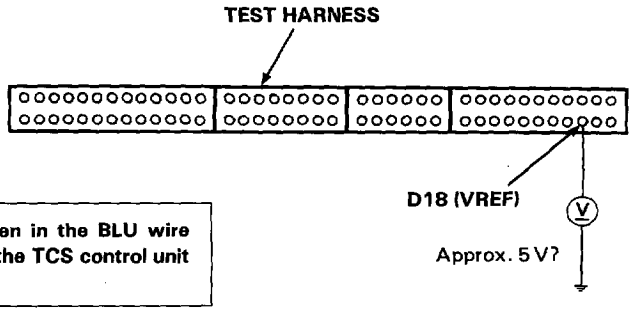
YES → **Repair short in the BLU wire between the TCS control unit and ECU.**

NO

Connect the test harness to the ECU (see section 11).

Turn the ignition switch ON.

Measure the voltage between the test harness D18 terminal (+) and body ground.



Is there approx. 5 V?

YES → **Repair open in the BLU wire between the TCS control unit and ECU.**

NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good ECU and recheck.**

Atmospheric Pressure (PA) Sensor

Problem Code 3-5: The atmospheric pressure (PA) sensor

Remove the ABS B2 (15A) fuse and No. 15 (7.5 A) fuse in the under-hood fuse/relay box for more than 10 seconds to reset the TCS control unit and ECU.

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).

Start the engine.

Confirm the TCS code (see page 19-14).

Is code 3-5 indicated? — NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Confirm the PGM-FI system code (see section 11).

Is code 13 indicated? — YES → **Repair according to the PGM-FI system troubleshooting guide (see section 11).**

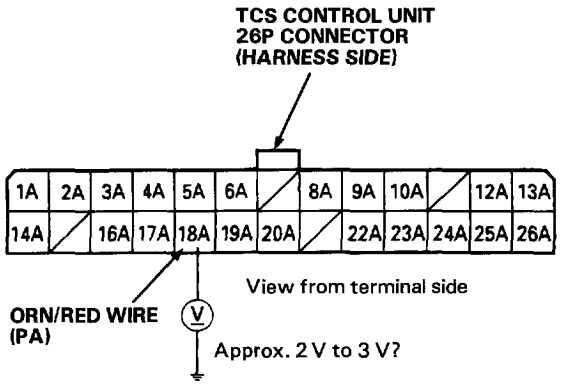
NO

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit.

Turn the ignition switch ON.

Measure the voltage between the 26P connector No. 18A terminal (+) and body ground.



Is there approx. 2 V to 3 V? — YES →
- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

NO

(To page 19-44)

(cont'd)

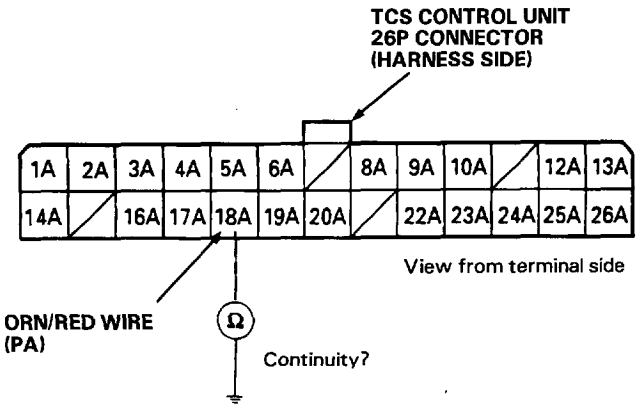
Atmospheric Pressure (PA) Sensor (cont'd)

(From page 19-43)

Turn the ignition switch OFF.

Disconnect the 22P connector from the ECU.

Check for continuity between the TCS control unit 26P connector terminal 18A and body ground.



Is there continuity?

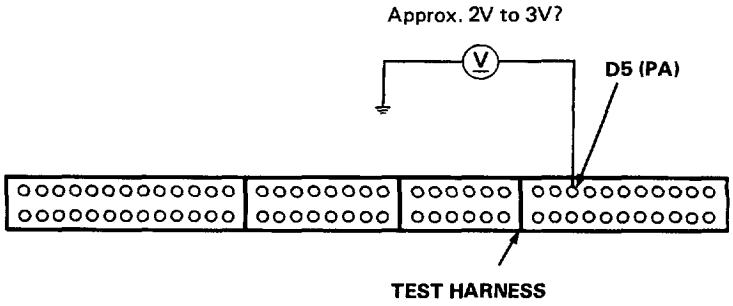
YES → **Repair short in the ORN/RED wire between the TCS control unit and ECU.**

NO

Connect the test harness to the ECU (see section 11).

Turn the ignition switch ON.

Measure the voltage between the test harness D5 terminal (+) and body ground.



Is thre approx. 2 V to 3 V?

YES → **Repair open in the ORN/RED wire between the TCS control unit and ECU.**

NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good ECU and recheck.**

Throttle Angle (θ TH1) Sensor

Problem Code 3-6: Throttle angle θ TH1 sensor

NOTE:
If the Check Engine Light indicator code 7 or D4 indicator light indicates code 3, refer to the appropriate troubleshooting flowchart.

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

↓

Start the engine.

↓

Confirm the TCS code (see page 19-14).

↓

Is code 3-6 indicated? — NO → **Intermittent failure. Check for poor connections or loose wires.**

↓ YES

Turn the ignition switch OFF.

↓

Disconnect the 16P connector from the TCS control unit.

↓

Turn the ignition switch ON.

↓

Measure the voltage between the TCS control unit 16P connector terminal 3B (+) and body ground.

↓

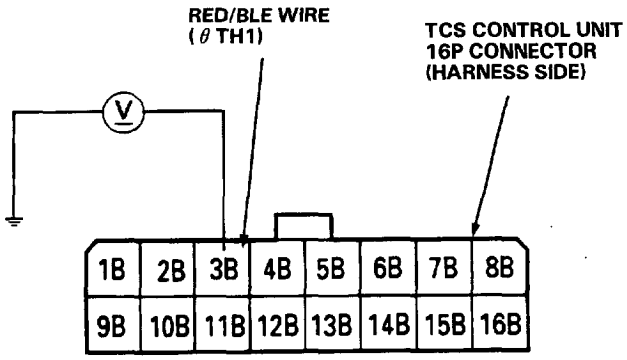
Is voltage 0.5 V at fully closed throttle, and approx. 4.5V at fully open throttle.
NOTE:
There should be a smooth transition from 0.5 V to approx. 4.5 V as the throttle is depressed.

YES → **• Check for poor connections or loose wires.**
• Substitute a known-good TCS control unit and recheck.

↓ NO

Repair open in the RED/BLU wire between the TCS control unit and throttle position sensor.
(Codes are indicated by the Check Engine Light and the D4 indicator light if there is a short.)

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).



View from terminal side

Troubleshooting (TCS)

TCS Control Valve Angle (θ TH2) Sensor

Problem Code 3-7: TCS control valve angle (θ TH2) sensor

NOTE:
The standard wheel speeds (initial offset memory) is erased when the ABS B 2 (15A) fuse is disconnected.
Be sure to input new standard wheel speeds again after inspection (see page 19-11).

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

Start the engine.

Confirm the TCS code (see page 19-14).

Is code 3-7 indicated? NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Turn the ignition switch OFF.

Disconnect the 3P connector from the TCS control valve angle sensor.

Turn the ignition switch ON.

Measure the voltage between the No. 1 (−) and No. 3 (+) terminals.

Is there approx. 5V? NO → Measure the voltage between the No. 3 terminal (+) and body ground.

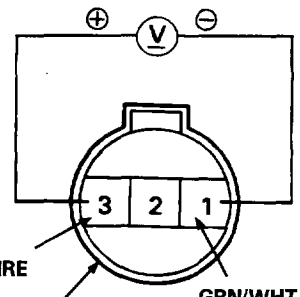
YES

Turn the ignition switch OFF.

Connect the 3P connector to the TCS control valve angle sensor.

(To page 19-47)

Approx. 5V?



View from terminal side

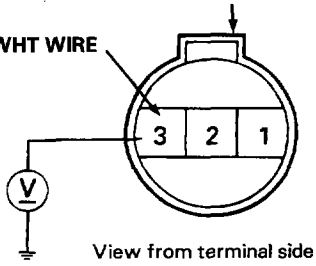
YEL/WHT WIRE

GRN/WHT WIRE

TCS CONTROL VALVE ANGLE SENSOR 3P CONNECTOR (HARNESS SIDE)

TCS CONTROL VALVE ANGLE SENSOR 3P CONNECTOR (HARNESS SIDE)

YEL/WHT WIRE



Approx. 5V?

View from terminal side

Is there approx. 5V? NO → **Check for open or short in the YEL/WHT wire between the TCS control valve angle sensor and ECU. If wire is OK, substitute a known-good ECU and recheck.**

YES

Repair open in the GRN/WHT wire between the TCS control valve angle sensor and ECU.

(From page 19-46)

Remove the intake air duct (see page 19-78).

Disconnect the 16P connector from the TCS control unit.

Turn the ignition switch ON.

Measure the voltage between the TCS control unit 16P connector terminal 1B (+) and body ground.

Is voltage approx. 4.5 V at fully open TCS control valve, and 0.5 V at fully closed TCS control valve.
NOTE:
There should be a smooth transition from approx. 4.5 V and 0.5 V at the TCS control valve is closed (see page 19-58).

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

NO

Turn the ignition switch OFF.

Disconnect the 3P connector from the TCS control valve angle sensor.

Check for continuity between the 16P connector terminal 1B and body ground.

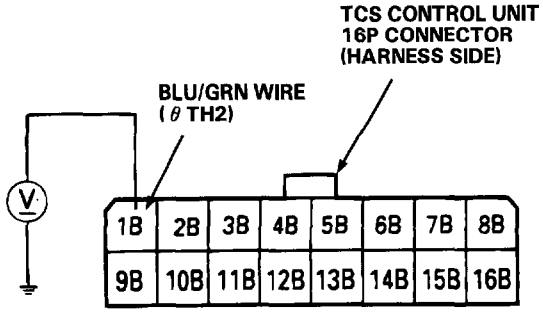
Is there continuity?

YES

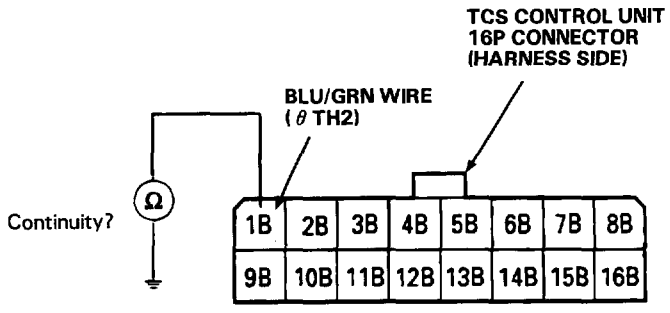
Repair short in the BLU/GRN wire between the TCS control unit and TCS control valve angle sensor.

NO

Check for open in the BLU/GRN wire between the TCS control unit and TCS control valve angle sensor. If the wire is OK, replace the TCS control valve assembly (faulty TCS control valve angle sensor) and recheck.



View from terminal side



View from terminal side

Troubleshooting (TCS)

Individual Wheel Sensors

Problem Code 4-1: Right front wheel sensor
4-2: Left front wheel sensor
4-4: Right rear wheel sensor
4-8: Left rear wheel sensor

NOTE:
- The TCS indicator light comes on if any wheel speed signal from the ABS control unit stops for more than three seconds when either the left or right rear wheel speed is 10 mph (16 km/h) or more.
- If the wheel speed signals from the ABS control unit are abnormal, the TCS control unit makes the TC FC signal to ECU 0 V. The ECU then indicates PGM-FI system code 36. After the repair is completed, reset the ECU (see section 11).

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit and ABS control unit.

Test drive for approx. 6 seconds at more than 10 mph (16 km/h).

Confirm the TCS code (see page 19-14).

Are codes 4-1, 4-2, 4-4 and/or 4-8 indicated?

NO → Turn the ignition switch OFF.

YES

Disconect the 26P connector from the TCS control unit.

Measure the voltage between the 26P connector terminal 22 A (+) and body ground with the brake pedal depressed.

Is there battery voltage?

YES → **Intermittent failure. Check for poor connections or loose wires.**

NO → **Repair open or short in the GRN/WHT wire between the TCS control unit and brake switch.**

Confirm the ABS code (see ABS section).

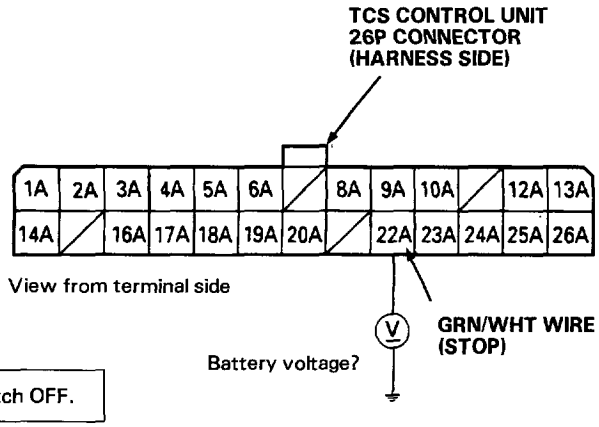
Are codes 4-1, 4-2, 4-4 and/or 4-8 indicated?

YES → **Repair according to the ABS troubleshooting chart (see ABS section).**

NO

(To page 19-49)

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).



(From page 19-48)

Measure the voltage between the TCS control unit 16P connector terminals (+) and body ground:
No. 8B: Right front
No. 6B: Left front
No. 4B: Right rear
No. 2B: Left rear

Is there 0 V when the wheel is stopped and approx. 2 V when the wheel is rotated by hand.

YES

- **Check for poor connections or loose wires.**
- **Substitute *a known-good* TCS control unit and recheck.**

NO

Turn the ignition switch OFF.

Disconnect the 14P connector from the ABS control unit.

Turn the ignition switch ON.

Measure the voltage between the TCS control unit 16P connector terminals (+) and body ground:
No. 8B: Right front
No. 6B: Left front
No. 4B: Right rear
No. 2B: Left rear

Is there approx. 5 V?

NO

Turn the ignition switch OFF.

Disconnect the 16P connector from the TCS control unit.

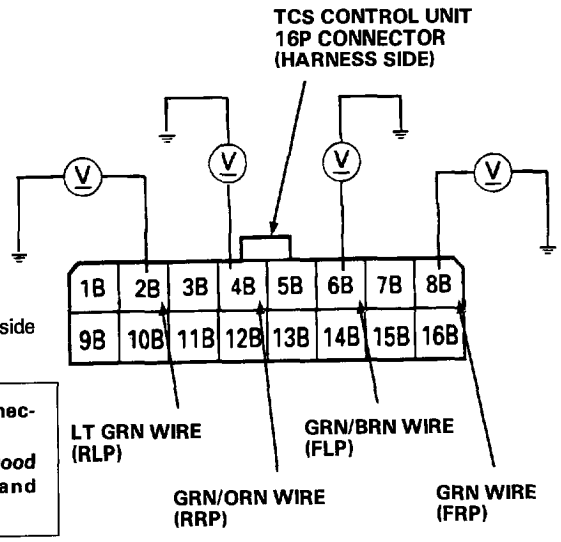
(To page 19-50)

YES

Turn the ignition switch OFF.

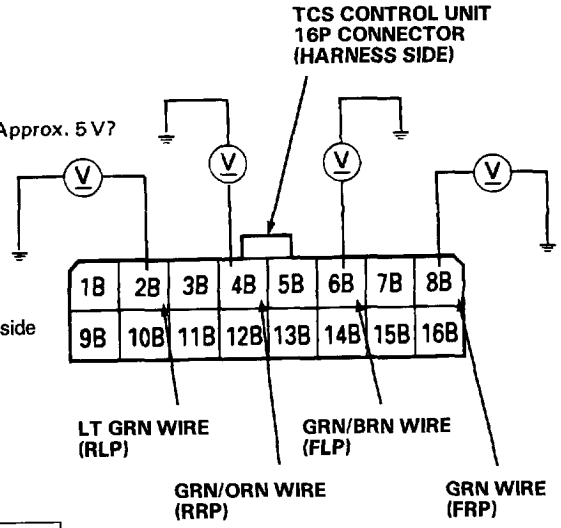
(To page 19-50)

NOTE:
- Use the 10V range or a similar range in the analog tester.
- Confirm that the analog tester needle swings to approx. 2V.



View from terminal side

Approx. 5 V?



View from terminal side

(cont'd)

Troubleshooting (TCS)

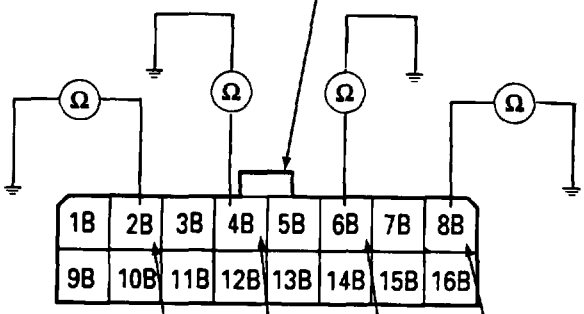
Individual Wheel Sensors (cont'd)

(From page 19-49)

(From page 19-49)

View from terminal side

TCS CONTROL UNIT 16P CONNECTOR (HARNESS SIDE)



Check for continuity between the 16P connector terminals and body ground:
No. 8B: Right front
No. 6B: Left front
No. 4B: Right rear
No. 2B: Left rear

Is there continuity?

NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

YES

Repair short in wire between the TCS control unit and ABS control unit:
GRN: Right front
GRN/BRN: Left front
GRN/ORN: Right rear
LT GRN: Left rear

Measure the voltage between the ABS control unit 14P connector terminals (+) and body ground:
No. 5: Left front
No. 6: Right front
No. 13: Right rear
No. 14: Left rear

Is there approx. 5 V?

YES

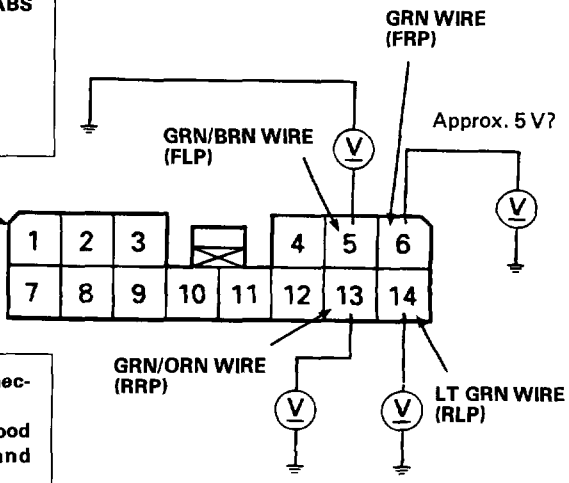
- **Check for poor connections or loose wires.**
- **Substitute a known-good ABS control unit and recheck.**

NO

Repair open in wire between the TCS control unit and ABS control unit:
GRN: Right front
GRN/BRN: Left front
GRN/ORN: Right rear
LT GRN: Left rear

ABS CONTROL UNIT 14P CONNECTOR (HARNESS SIDE)

View from terminal side



All Wheel Sensors

Problem Code 4-9: All wheel sensors

NOTE:
The TCS indicator light comes on if all wheel speed signals from the ABS control unit stop for more than five seconds while the engine is running.

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit and ABS control unit.

Start the engine.

Confirm the TCS code (see page 19-14).

Is code 4-9 indicated? — NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Check the ABS indicator light.

Is the ABS indicator light ON? — YES → **Repair according to the ABS troubleshooting guide (see ABS section).**

NO

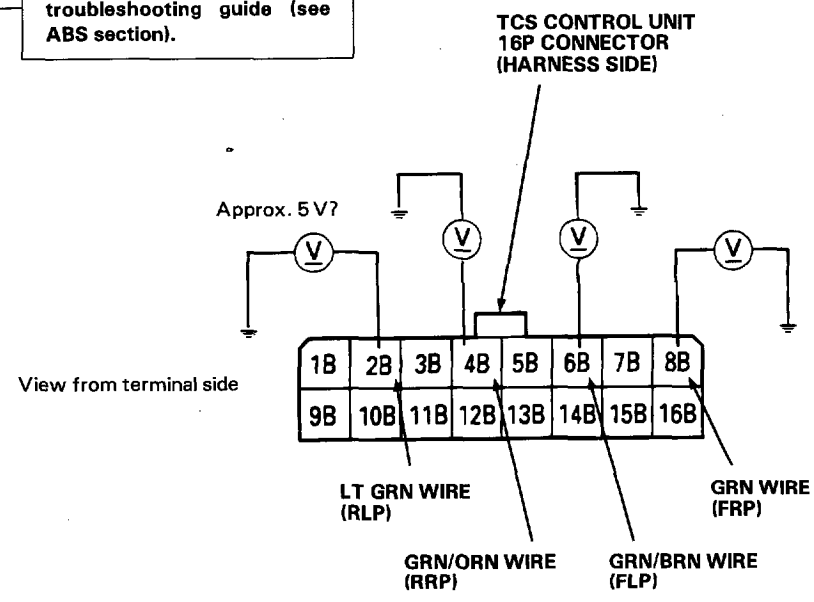
Measure the voltage between the TCS control unit 16P connector terminals (+) and body ground with the wheels stopped.
No. 8B: Right front
No. 6B: Left front
No. 4B: Right rear
No. 2B: Left rear

Is there approx. 5 V? — NO → **• Check for poor connections or loose wires. • Substitute a known-good TCS control unit and recheck.**

YES

(To page 19-52)

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again *after inspection* (see page 19-11).

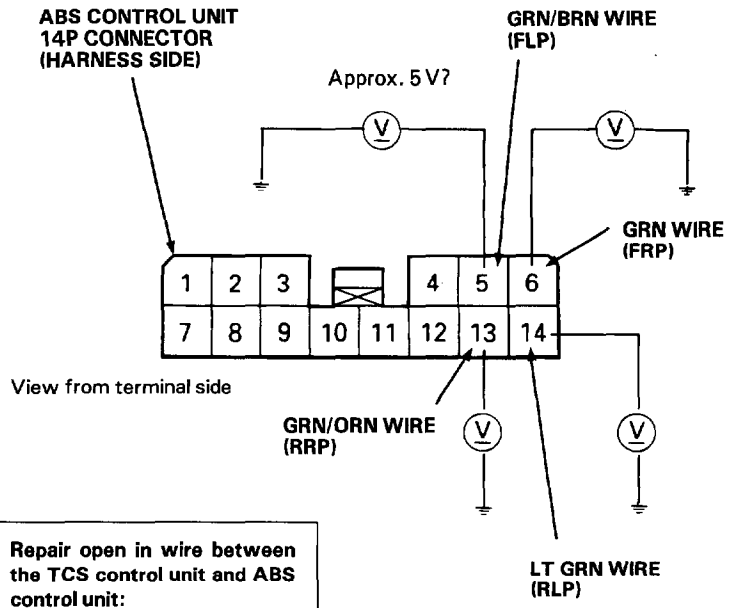


(cont'd)

All Wheel Sensors (cont'd)

(From page 19-51)

Measure the voltage between the ABS control unit 14P connector terminals (+) and body ground with the wheels stopped.
No. 6: Right front
No. 5: Left front
No. 13: Right rear
No. 14: Left rear



Is there approx. 5 V?

NO

Repair open in wire between the TCS control unit and ABS control unit:
GRN: Right front
GRN/BRN: Left front
GRN/ORN: Right rear
LT GRN: Left rear

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good ABS control unit and recheck.**

Fail-safe Relay/TCS Control Valve Actuator

Problem Code 5-1: Fail-safe relay system and TCS control valve actuator system

NOTE:
The TCS control unit closes the TCS control valve once after the engine is started to check that the TCS control valve actuator operates properly.

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

Start the engine and run it for more than 3 seconds.

Confirm the TCS code (see page 19-14).

Is code 5-1 indicated? NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Turn the ignition switch OFF.

Check the TCS (15A) fuse in the under-hood fuse/relay box.

Is it normal? NO → **Replace the TCS (15A) fuse and recheck.**

YES

Check the fail-safe relay (see page 19-74).

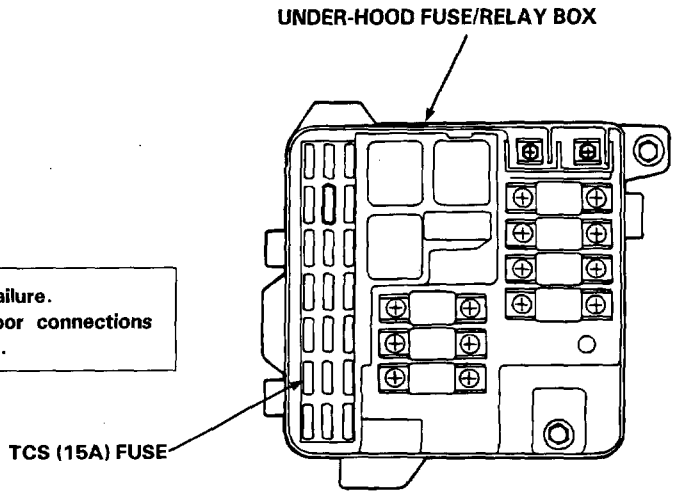
Is it normal? NO → **Replace the fail-safe relay and recheck.**

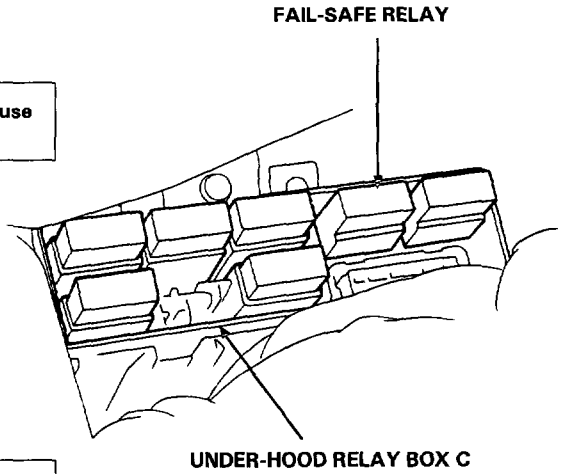
YES

Turn the ignition switch ON.

(To page 19-54)

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).





(cont'd)

Fail-safe Relay/TCS Control Valve Actuator (cont'd)

(From page 19-53)

Measure the voltage between the No. 1 terminal (+) of the fail-safe relay connector and body ground.

Is there battery voltage?

NO → **Repair open in the BLK/YEL wire between the fail-safe relay and under-dash fuse/ relay box.**

YES

Measure the voltage between the No. 2 terminal (+) of the fail-safe relay connector and body ground.

YES

Is there bettery voltage?

NO → **Repair open in the GRN/RED wire between the fail-safe relay and under-hood fuse/ relay box.**

Turn the ignition switch OFF.

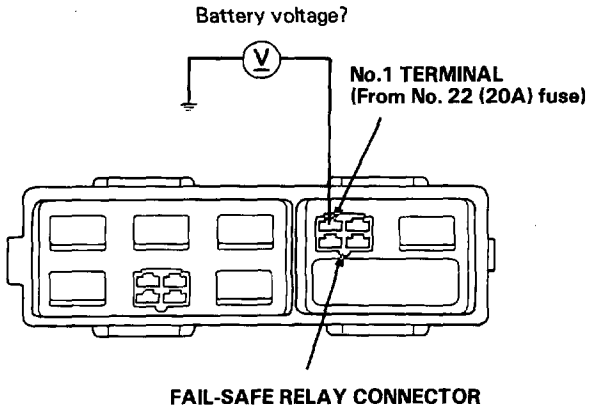
Install the fail-safe relay.

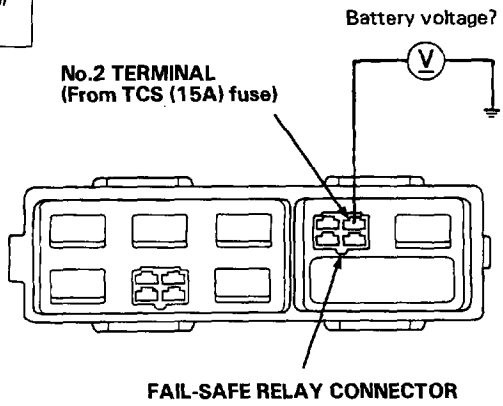
Disconnect the 26P connector from the TCS control unit.

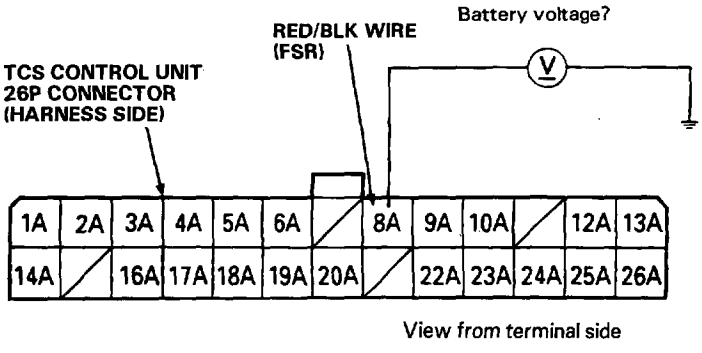
Turn the ignition switch ON.

Measure the voltage between the 26P connector terminal 8A (+) and body ground.

(To page 19-55)







(From page 19-54)

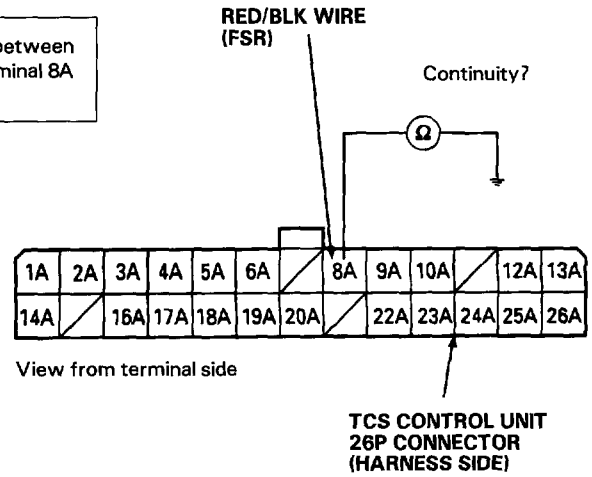
Is there battery voltage?

NO

Turn the ignition switch OFF.

YES

Check for continuity between the 26P connector terminal 8A and body ground.



Is there continuity?

NO

Repair open in the RED/BLK wire between the fail-safe relay and TCS control unit.

YES

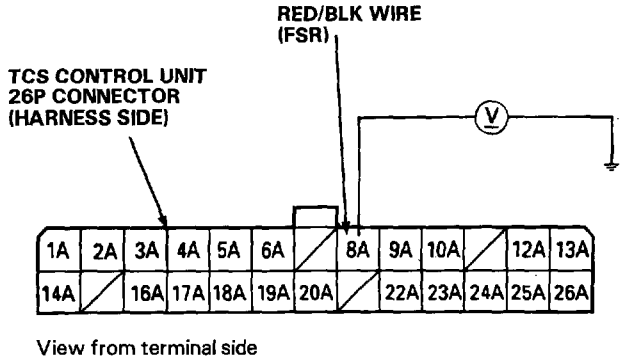
Repair short in the RED/BLK wire between the fail-safe relay and TCS control unit.

Turn the ignition switch OFF.

Connect the 26P connector to the TCS control unit.

Turn the ignition switch ON.

Measure the voltage between the 26P connector terminal 8A (+) and body ground.



Start the engine.

When the TCS indicator light remains on: Is there battery voltage?
After the TCS indicator light goes off: Is there no voltage?

NO

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

YES

(To page 19-56)

(cont'd)

Troubleshooting (TCS)

Fail-safe Relay/TCS Control Valve Actuator (cont'd)

(From page 19-55)

Measure the voltage between the TCS control unit 26P connector terminal 13A (+) and body ground.

Is there battery voltage?

NO

Turn the ignition switch OFF.

YES

Disconnect the 26P connector from the TCS control unit.

Remove the fail-safe relay from under-hood relay box C.

Connect the No. 2 and No. 4 terminals of the fail-safe relay connector with a jumper wire.

Measure the voltage between the 26P connector terminal 13 A (+) and body ground.

Is there battery voltage?

NO

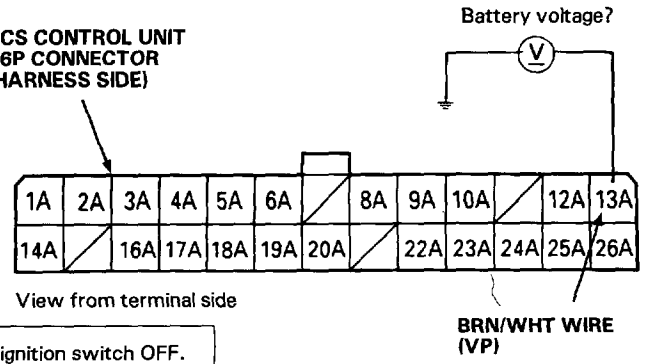
Repair open in the BRN/WHT wire between the fail-safe relay and TCS control unit.

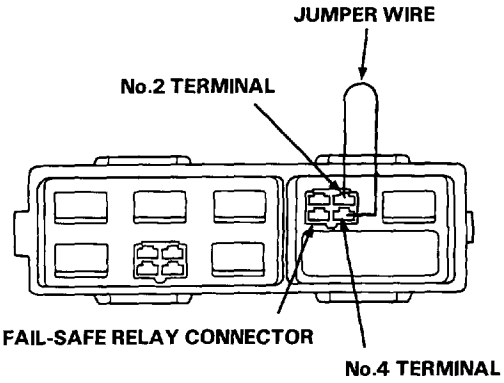
YES

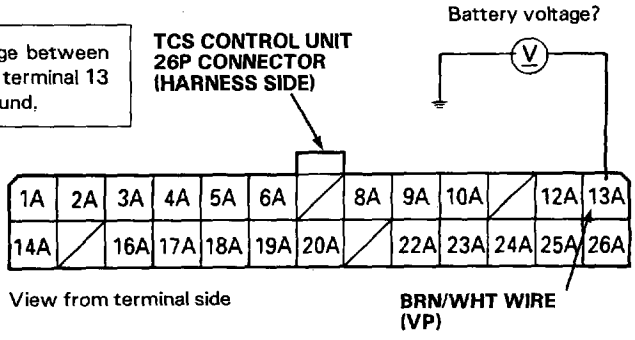
Substitute a known-good TCS control unit and recheck.

(To page 19-57)

NOTE:
Since there is a capacitor inside the TCS control unit, the battery voltage can be measured if the fail-safe relay system is functioning.







(From page 19-56)

Turn the ignition switch OFF.

Disconnect the 2P connector from the TCS control valve actuator and the 26P connector from the TCS control unit.

Check for continuity between the 26P connector terminals and body ground:
No. 25: BLU/BLK (M +)
No. 26: BLU/YEL (M −)

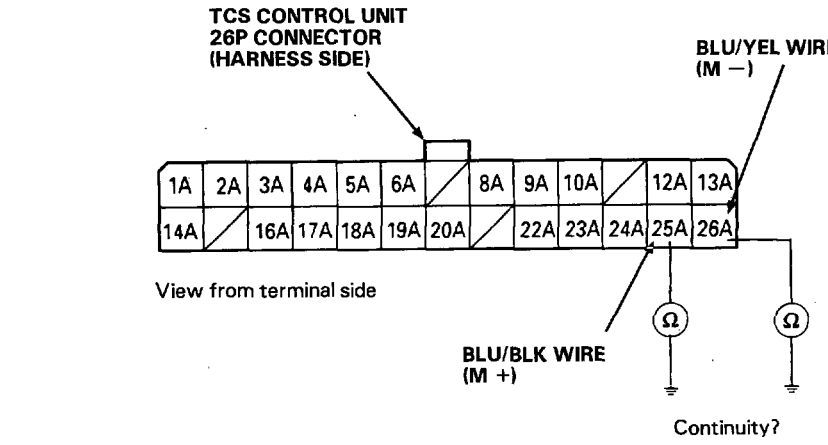
Is there continuity?

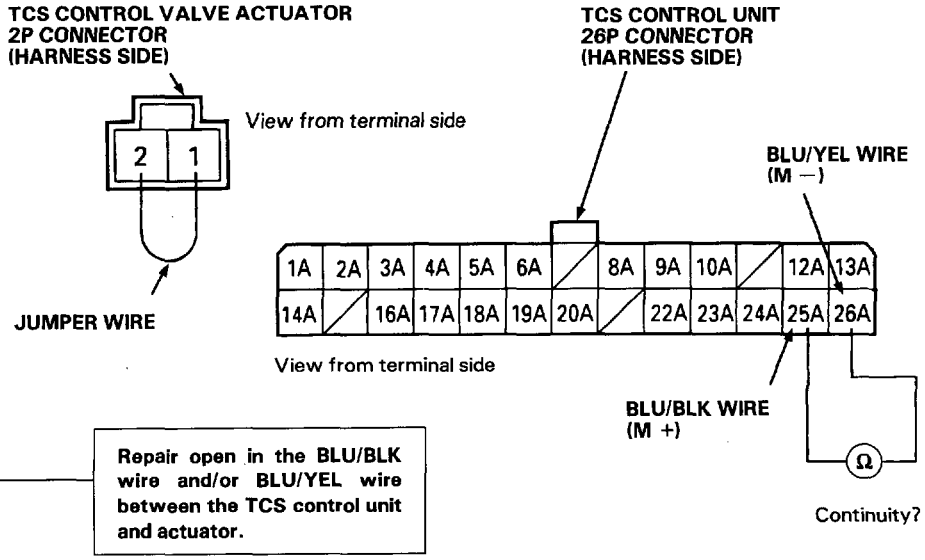
YES → **Repair short in the BLU/BLK wire and/or BLU/YEL wire between the TCS control unit and actuator.**

NO

Connect the harness side 2P connector No. 1 and No. 2 terminals with a jumper wire.

Check for continuity between the 26P connector terminals 25A and 26A.



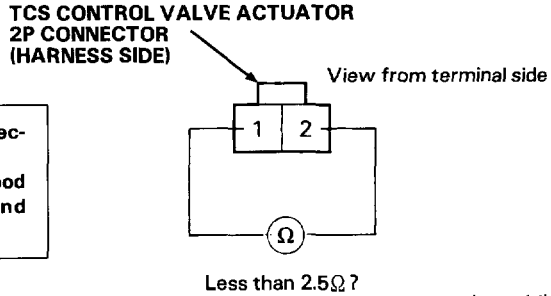


Is there continuity?

NO → **Repair open in the BLU/BLK wire and/or BLU/YEL wire between the TCS control unit and actuator.**

YES

Measure the resistance between the No. 1 and No. 2 terminals of the TCS control valve actuator 2P connector.



Is the resistance less than 2.5Ω?

YES → **• Check for poor connections or loose wires.**
• Substitute a known-good TCS control unit and recheck.

NO

(To page 19-58)

(cont'd)

Troubleshooting (TCS)

Fail-safe Relay/TCS Control Valve Actuator (cont'd)

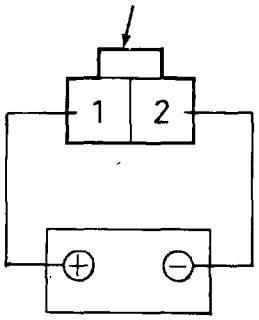
(From page 19-57)

Connect the battery (+) terminal to the No. 1 terminal of the actuator 2P connector, and the (−) terminal to the No. 2 terminal for 1-2 seconds to operate the TCS control valve actuator.

CAUTION:
- **Be careful not to short the terminals.**
- **Disconnect the (−) terminal from the actuator immediately after the TCS control valve clicks (is fully closed).**

TCS CONTORL VALVE ACTUATOR 2P CONNECTOR (ACTUATOR SIDE)

View from terminal side



Does the TCS control valve click?

NO → **Remove the intake air duct and recheck the TCS control valve operation. If it is defective, replace the TCS control valve assembly (see page 19-78).**

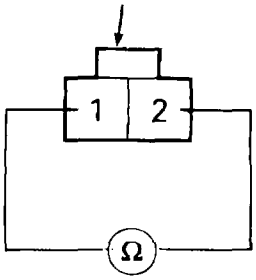
YES

Operate the TCS control valve actuator with the battery 10 times.

Measure the resistance between the No. 1 and No. 2 terminals of the TCS control valve actuator 2P connector.

TCS CONTORL VALVE ACTUATOR 2P CONNECTOR (ACTUATOR SIDE)

View from terminal side



Less than 2.5Ω?

Is the resistance less than 2.5Ω?

NO → **The TCS control valve actuator is faulty. Replace the TCS control valve assembly (see page 19-78).**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

TCS Control Valve Actuator

Problem Code 5-2: TCS control valve actuator does not operate normally due to low voltage

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

Start the engine.

Confirm the TCS code (see page 19-14).

Is the code 5-2 indicated?

NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit.

Turn the ignition switch ON.

Measure the voltage between the 26P connector terminal 1A (+) and body ground.

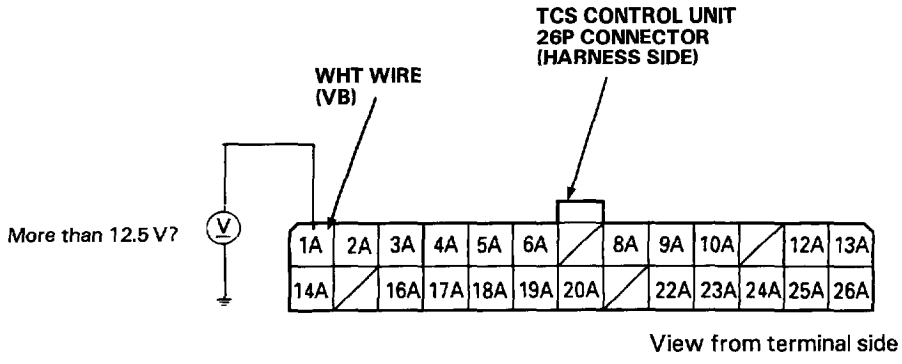
Is there more than 12.5 V?

NO → **Check the battery terminals for looseness and charging system (see section 23).**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good *TCS control unit* and recheck.**

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).



View from terminal side

Troubleshooting (TCS)

Back-up Voltage (VB)

Problem Code 5-3: Abnormal VB (back-up voltage)

Remove the ABS B2 (15A) fuse in the under-hood fuse/ relay box for more than 3 seconds to reset the TCS control unit.

Start the engine and run it at more than 1,000 rpm for more than 10 seconds.

Confirm the TCS code (see page 19-14).

Is the code 5-3 indicated? NO → **Intermittent failure. Check for poor connections or loose wires.**

YES

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit.

Turn the ignition switch ON.

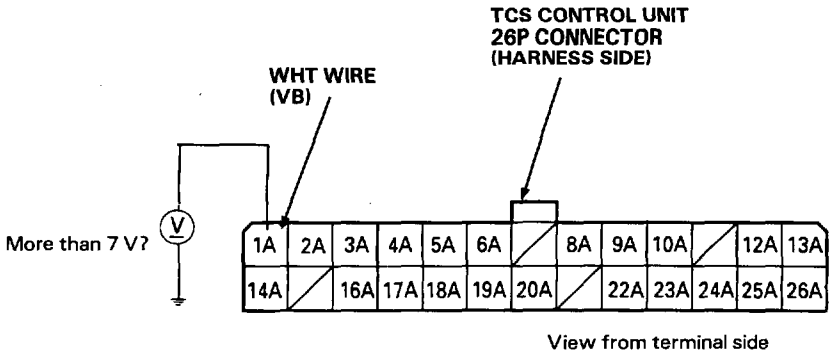
Measure the voltage between the 26P connector terminal 1A (+) and body ground.

Is there more than 7 V? NO → **Check the battery terminals for looseness and charging system (see section 23).**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15 A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).



A/T Gear Position Signal

Problem Code 6-1: A/T gear position signal

NOTE:
When the back-up voltage is disconnected from the TCS control unit, the TCS control unit on an A/T model goes into the M/T mode. Once the engine is started, however, the TC SP signal switches the TCS control unit back to the A/T mode. The system mode can be confirmed by performing the "steering angle sensor system check".

Confirm the A/T system code (see section 14).

Is a code indicated? — YES → **Repair according to the PGM-FI/AT Electronic Control Unit (ECU) system troubleshooting guide (see section 14).**

NO

Raise the car and support it with safety stands (see section 1).

Start the engine.

Shift the transmission into [P], [N] or [2].

Measure the voltage between the TCS control unti 26P connector terminal 5A (+) and body ground.

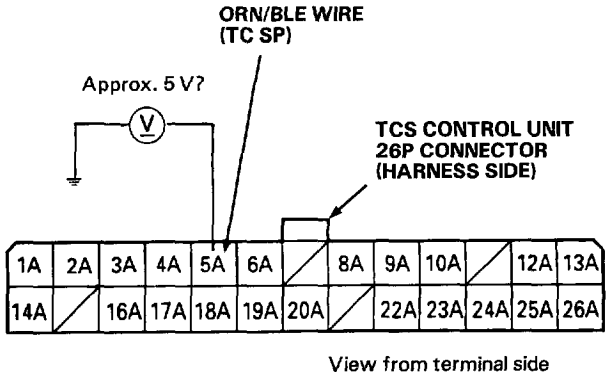
Is there approx. 5 V? — NO → (To page 19-63)

YES

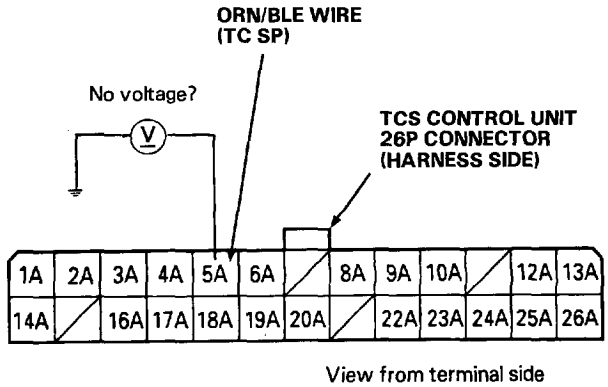
Sift the transmission into [1] or [R].

Measure the voltage between the TCS control unit 26P connector terminal 5A (+) and body ground.

(To page 19-62)



View from terminal side



View from terminal side

(cont'd)

A/T Gear Position Signal (cont'd)

(From page 19-61)

Is there no voltage?

NO → Turn the ignition switch OFF.

YES

Shift the transmission into D4 and slowly increase the speed up to 30 mph (50 km/h).

Measure the voltage between the TCS control unit 26P connector terminal 5A (+) and body ground.

Is there approx. 2.5 V?

NO → **Substitute a known-good ECU and recheck.**

YES

- **Check for poor connections or loose wires.**
- **Substitute a known-goog TCS control unit and recheck.**

Disconnect the 26P connector from the A/T side of the ECU.

Turn the ignition switch ON.

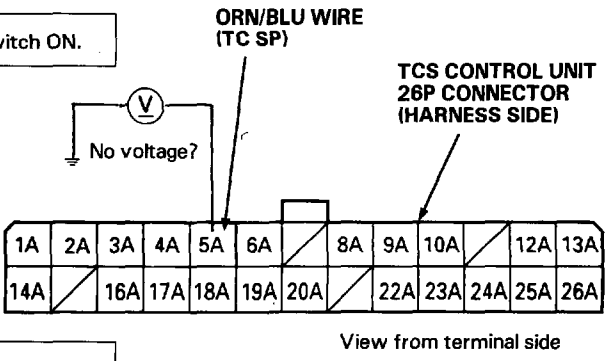
Measure the voltage between the TCS control unit 26P connector terminal 5A (+) and body ground.

Is there no voltage?

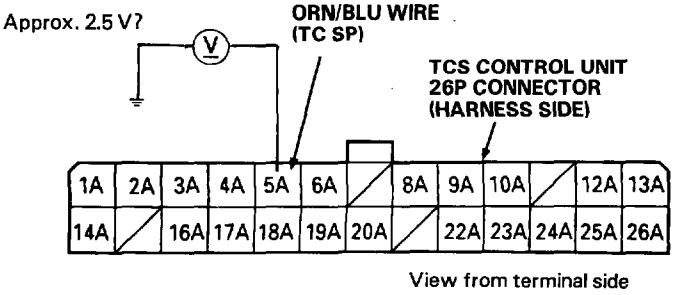
NO → **Substitute a known-good TCS control unit and recheck.**

YES

Substitute a known-good ECU and recheck.



NOTE:
- Check with the engine warmed-up.
- Use the 10 V range or similar range in the analog tester.
- Confirm that the analog tester needle swings to approx. 2.5 V.



(From page 19-62)

Turn the ignition switch OFF.

Connect the test harness with the adaptor to the A/T side of the ECU (see section 14).

Start the engine.

Shift the transmission into P, N or 2.

Measure the voltage between the test harness No. A 11 terminal (+) and body ground.

Is there approx. 5 V?

YES → **Repair open in the ORN/BLU wire between the TCS control unit and ECU.**

NO

Turn the ignition switch OFF.

Disconnect the 26P connector from A/T side of the ECU and the 26P connector from the TCS control unit.

Check for continuity between the TCS control unit 26P connector terminal 5A and body ground.

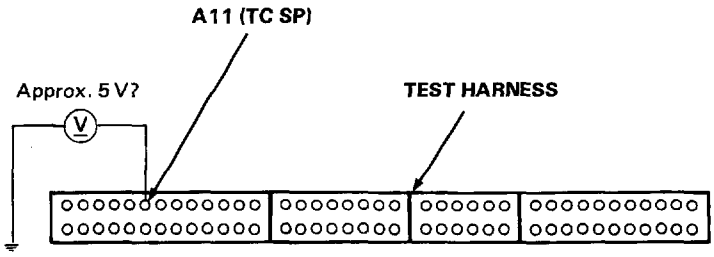
Is there continuity?

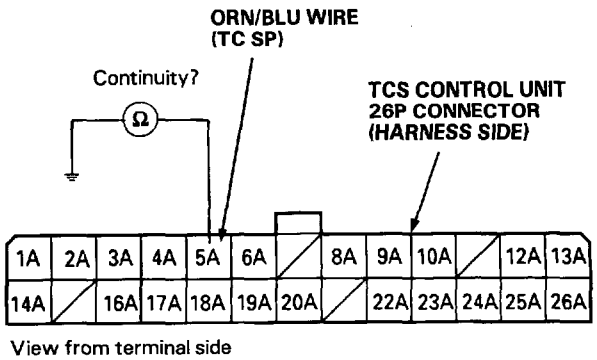
YES → **Repair short in the ORN/BLU wire between the TCS control unit and ECU.**

NO

(To page 19-64)

NOTE:
Modify the test harness (07LAJ—PT3010A) connector by removing the bars from both ends of the A (26P) male connector block.





View from terminal side

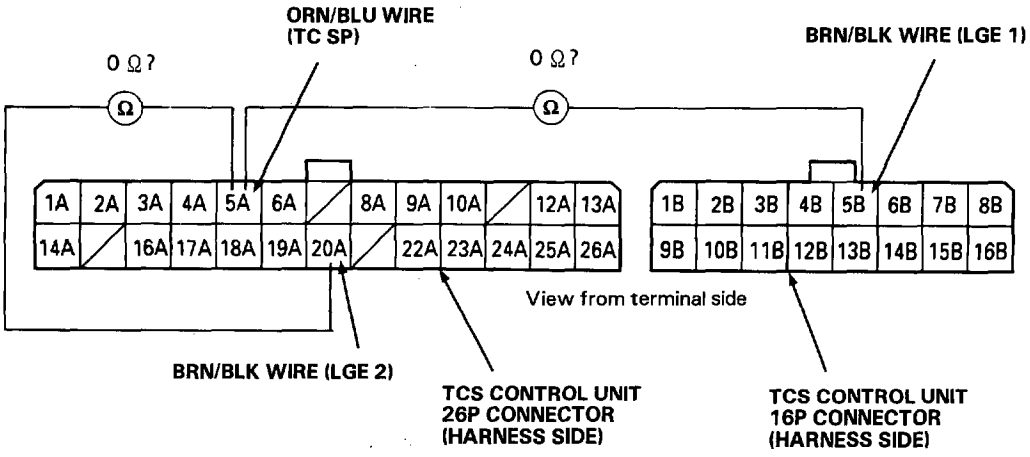
(cont'd)

A/T Gear Position Signal (cont'd)

(From page 19-63)

Reconnect the 26P connector to the TCS control unit.

Measure the resistance between the 26P connector terminals 5A and 20A or the 16p connector terminal 5B of the TCS control unit.



Is there 0 Ω?

YES → **Replace the TCS control unit and recheck.**

NO → **Substitute a known-good ECU and recheck.**

NOTE:
The normal resistance is approx. 12.5 kΩ for reference.

TCS Function Test

Traction Control System Function Test

Raise the car and support it with safety stands (see section 1).

Turn the ignition switch ON.

Check the TCS indicator lights, TCS activation light and TCS switch indicator light.

NOTE:
The TCS activation light and TCS switch indicator light come on for about 2 seconds after the ignition switch is turned on, then go off. The TCS indicator light stays on.

Are the lights come on?

NO → **Perform the troubleshooting on page 19-17.**

YES

Start the engine.

Check the TCS indicator light.

NOTE:
The TCS indicator light stays on and the system is not ready when the coolant temperature is below 0°C (32°F).

Does the light go off?

NO → **Perform the troubleshooting on page 19-21.**

YES

Check the TCS switch indicator light.

Does the light come on?

NO → **Replace the TCS control unit and recheck.**

YES

Shift the transmission into 2nd (M/T) or [2] (A/T).

Press the accelerator pedal about 1/3 down.

Make sure that the speedometer indicates at 12-20 mph (20-30 km/h) and the engine speed is at 1,000-2,000 rpm.

Is it normal?

NO → **Confirm the TCS code (see page 19-14) and repair according to the trouble-shooting guide.**

YES

Check that the TCS activation light (green) flash at the same time.

(To page 19-66)

(cont'd)

TCS Function Test (cont'd)

(From page 19-65)

Do the lights flash?

NO → **Replace the TCS control unit and recheck.**

YES

Depress the brake pedal and stop the front wheels.

Push the TCS switch one time.

Check that the TCS indicator light comes on and TCS switch indicator light goes off.

Do the lights operate properly?

NO → Turn the ignition switch OFF.

YES

(To page 19-67)

Disconnect the 16P connector from the TCS control unit.

Turn the ignition switch ON.

Measure the voltage between the TCS control unit 16P connector terminal 13B (+) and body ground with the TCS switch released.

Is there 0 V?

NO → **Replace the TCS switch and recheck.**

YES

Measure the voltage between the TCS control unit 16P connector terminal 13B (+) and body ground with the TCS switch pushed.

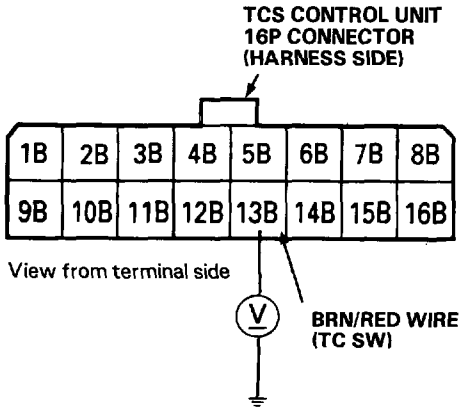
Is there battery voltage?

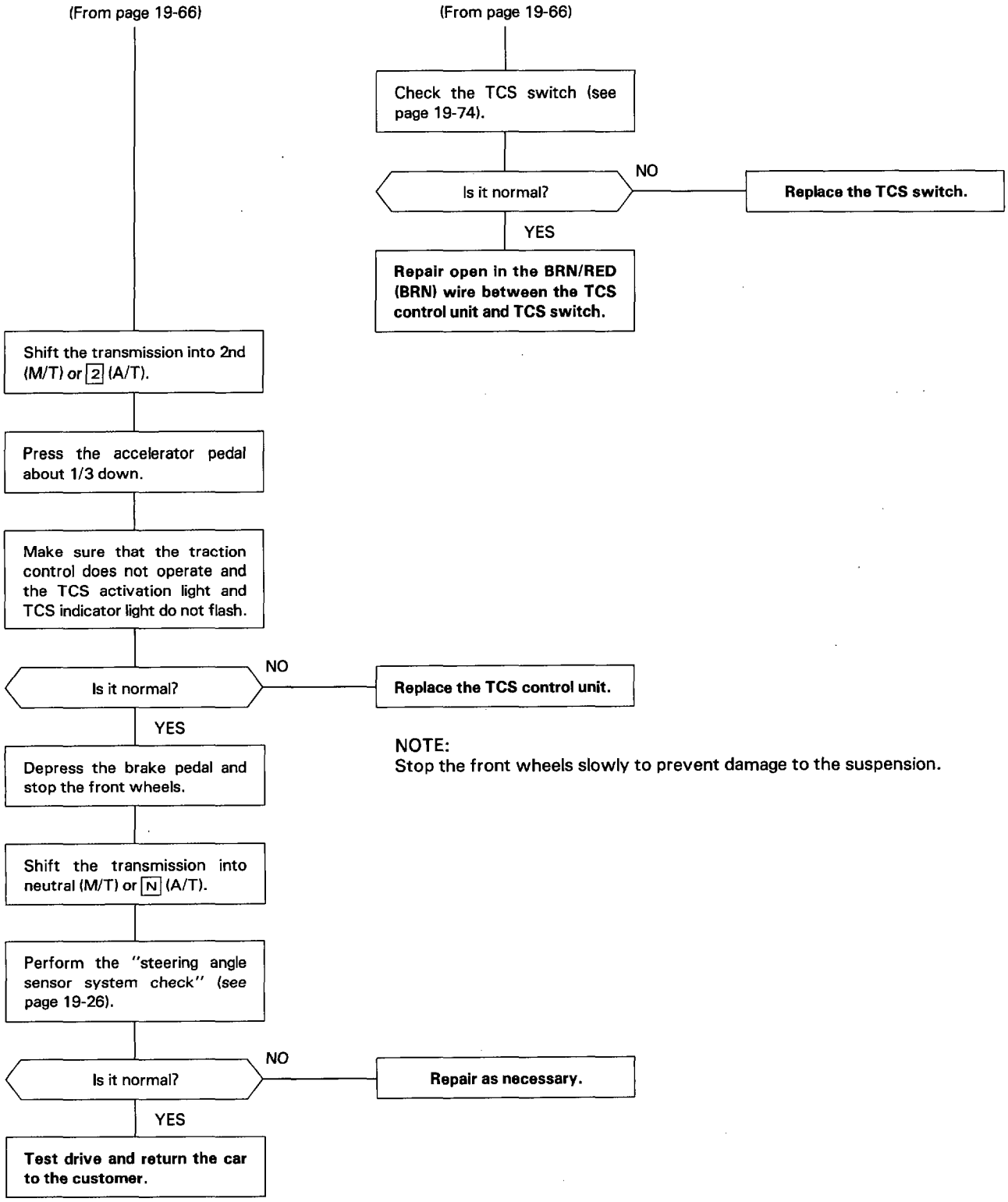
YES → **Replace the TCS control unit and recheck.**

NO

(To page 19-67)

NOTE:
Stop the front wheels slowly to prevent damage to the suspension.





NOTE:
Stop the front wheels slowly to prevent damage to the suspension.

Troubleshooting (TWS)

TWS Indicator Light Blinks

The TWS indicator light blinks during driving

NOTE:
The TWS blinks the TWS indicator light when it detects the abnormal tire air pressure during driving. The TWS indicator light goes off when the ignition switch is turned OFF and it blinks when the system detects the abnormality again.

Check the four tire air pressures.

NOTE:
The TWS may blinks indicator light during driving under the following conditions:
- when one or more different tires are installed.
- when the tire chains are installed.
- when there are the significant differences in speed between the wheels, such as being towed with a trailer.

Are tire air pressure normal?
NO → **Adjust the tire air pressure(s).**
YES

Check the tire for wear.

NOTE:
Reset the standard wheel speeds (see page 19-11), test drive the car and make sure that the TWS indicator light does not blink.

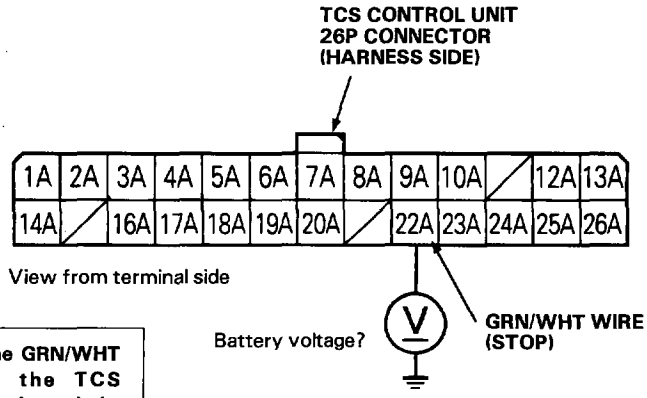
Is all tires worn evenly?
NO → **Equalize the tread depthes of the tires as possible by the tire rotation or change.**
YES

Turn the ignition switch OFF.

NOTE:
It is important to equalize the tread depthes of the left and right front tires.

Disconnect the TCS control unit 26P connector.

Measure the voltage between 26P connector terminal 22A and body ground with the brake pedal pressed.



Is there battery voltage?
NO → **Repair open in the GRN/WHT wire between the TCS control unit and brake switch.**
YES

Measure the voltage between 26P connector terminal 22A and body ground with the brake pedal released.

Is there voltage?
YES → **Replace the brake switch. (Brake switch stuck ON)**
NO

(To page 19-69)

(From page 19-68)

Pull up the parking brake lever.

Measure the voltage between 26P connector terminal 9A and body ground.

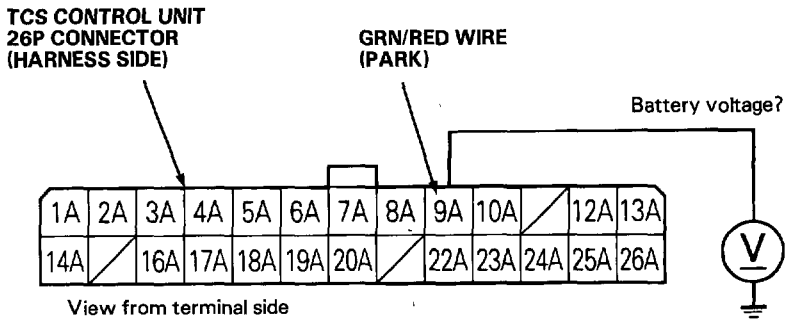
Is there voltage?

YES

Replace the parking brake switch.
(Parking brake switch stuck OFF)

NO

The system is OK at this time. Reset the standard wheel speeds (see page 19-11) and recheck.



Troubleshooting (TWS)

TWS Indicator Light Do Not Come On

TWS indicator light do not come on for two seconds when the ignition switch is first turned on (no bulb check).

NOTE:
The TWS indicator light stays on until the engine is started.

Turn the ignition switch ON.

Do the other indicator lights (ABS, Check Engine Light, SRS, etc.) come on?

NO → Turn the ignition switch OFF.

YES

Check the No. 13 (7.5 A) fuse in the under-dash fuse/relay box.

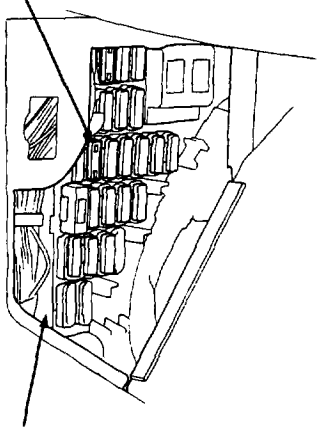
Is it normal?

NO → **Replace the fuse and recheck.**

YES

Repair open in the YEL wire between the under-dash fuse/relay box and gauge assembly.

No. 13 (7.5A) FUSE



UNDER-DASH FUSE/RELAY BOX

Turn the ignition switch OFF.

Disconnect the 26P connector from the TCS control unit

Turn the ignition switch ON.

Ground the 26P connector terminal 7A to the body ground and check the light.

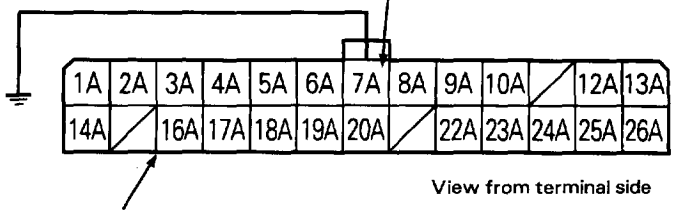
Do the light come on?

NO →
- **Replace the defective bulb.**
- **Repair open in the BLU/WHT wire between the gauge assembly and TCS control unit.**

YES

(To page 19-71)

BLU/WHT WIRE

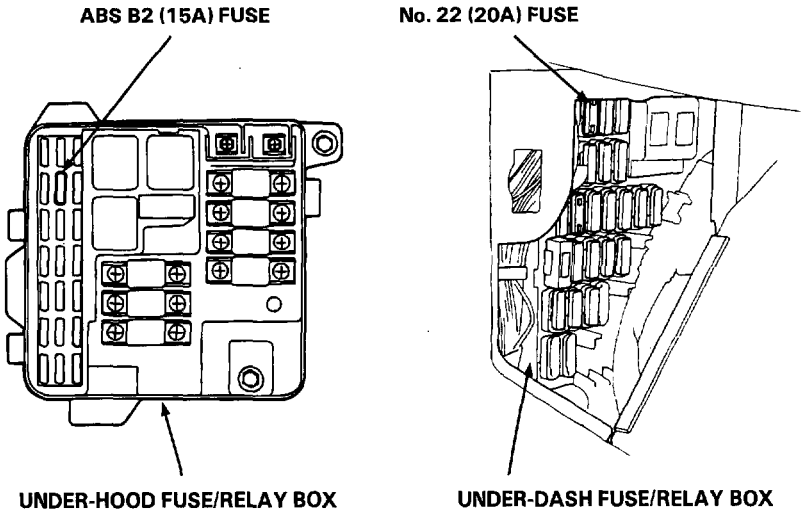


View from terminal side

TCS CONTROL UNIT 26P CONNECTOR (HARNESS SIDE)

(From page 19-70)

Check the ABS B2 (15A) fuse in the under-hood fuse/relay box and the No. 22 (20A) fuse in the under-dash fuse/relay box.



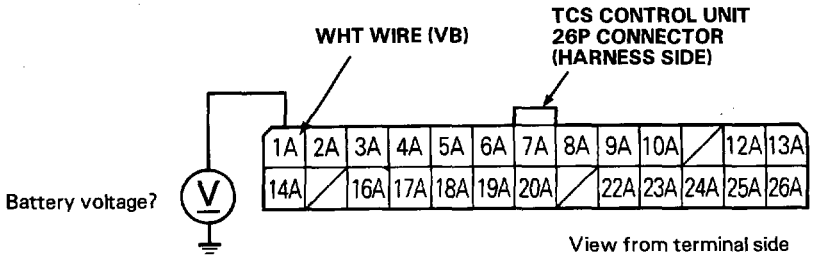
Are they normal?

NO → **Replace the ABS B2 (15A) fuse and/or No. 22 (20A) fuse and rechek.**

YES

Measure the voltage between the 26P connector terminal 1A (+) and body ground.

NOTE:
The standard wheel speeds (initial offset memory) in the control unit is erased when the ABS B2 (15A) fuse is disconnected.
Be sure to input new standard wheel speeds into the control unit again after inspection (see page 19-11).

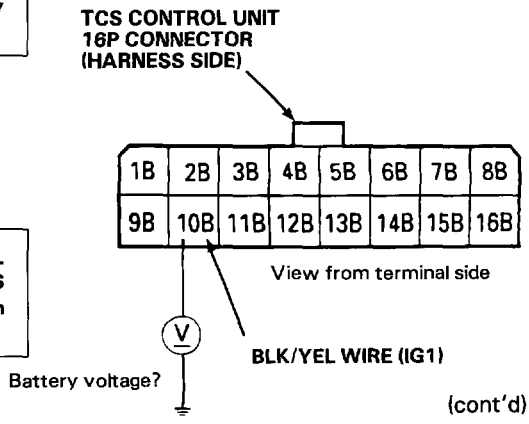


Is there battery voltage?

NO → **Repair open in the WHT wire between the TCS control unit and under-hood fuse/relay box.**

YES

Measure the voltage between the 16P connector terminal 10 B (+) and body ground.



Is there battery voltage?

NO → **Repair open in the BLK/YEL wire between the TCS control unit and under-dash fuse/relay box.**

YES

(To page 19-72)

(cont'd)

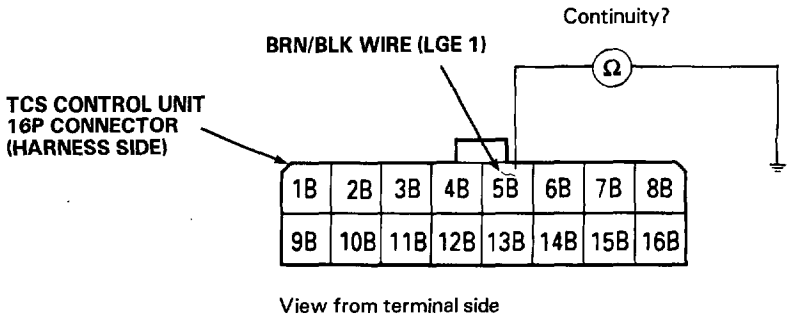
Troubleshooting (TWS)

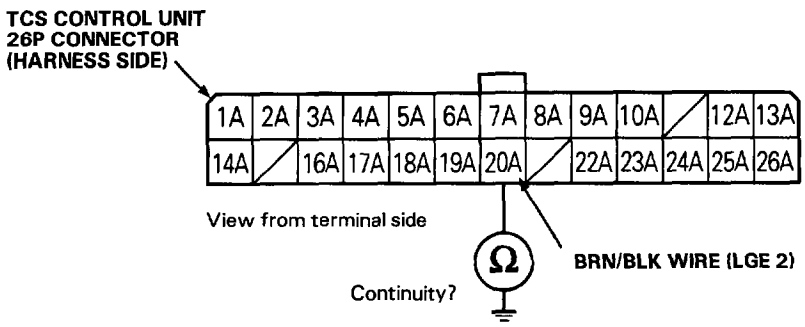
TWS Indicator Light Do Not Come On (cont'd)

(From page 19-71)

Turn the ignition switch OFF.

Check for continuity between the 16P connector terminal 5B and body ground, and between the 26P connector terminal 20 A and body ground.





Is there continuity?

NO

- **Repair open in the BRN/BLK wire between the TCS control unit and body ground.**
- **Repair poor ground (G101).**

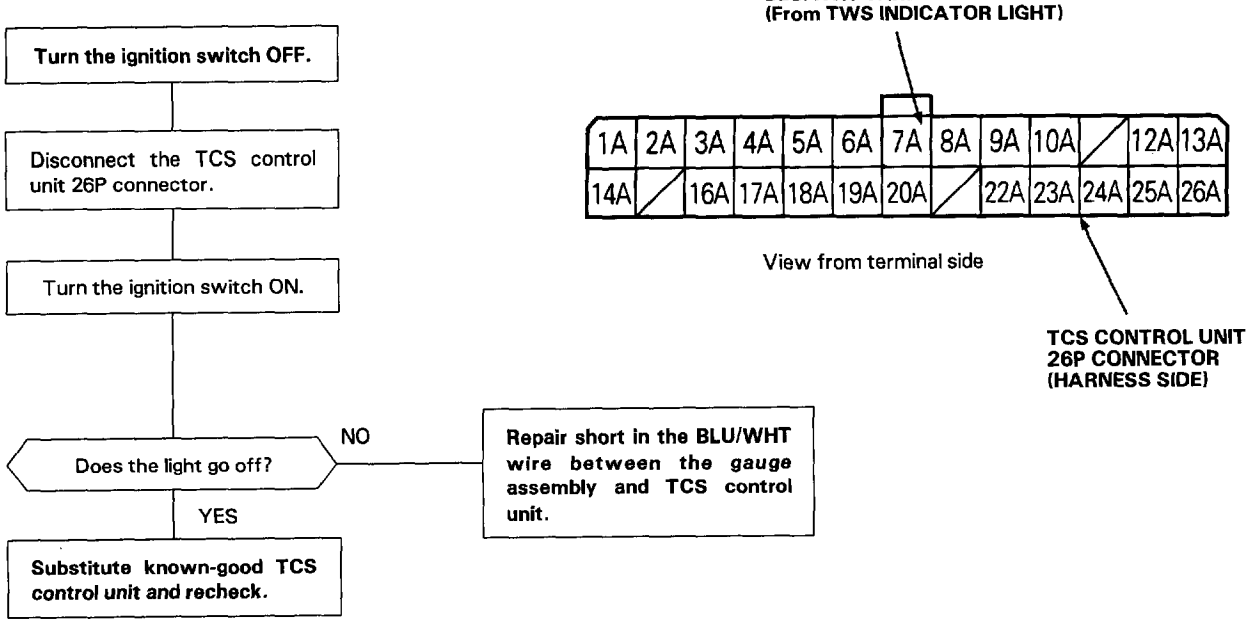
YES

- **Check for poor connections or loose wires.**
- **Substitute a known-good TCS control unit and recheck.**

TWS Indicator Light Does Not Go Off

The TWS indicator light does not go off after the engine is started.

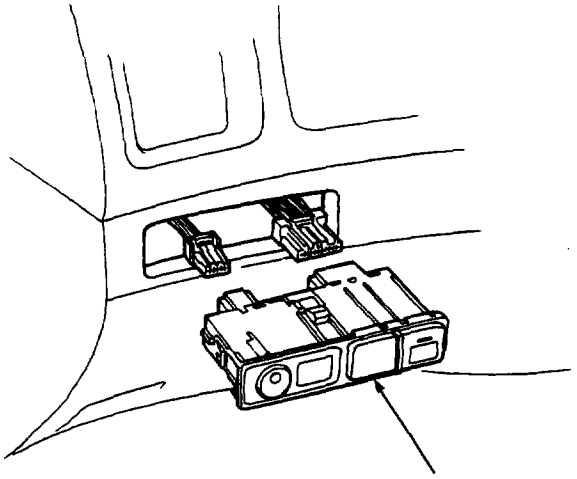
NOTE:
If the TWS indicator light and TCS indicator light come on after the engine is started or during driving, confirm the TCS code and repair according to the TCS troubleshooting guide.



Electronic Components

TCS Switch Test

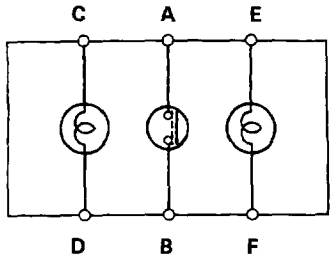
Remove the TCS switch assembly from the dashboard lower cover.

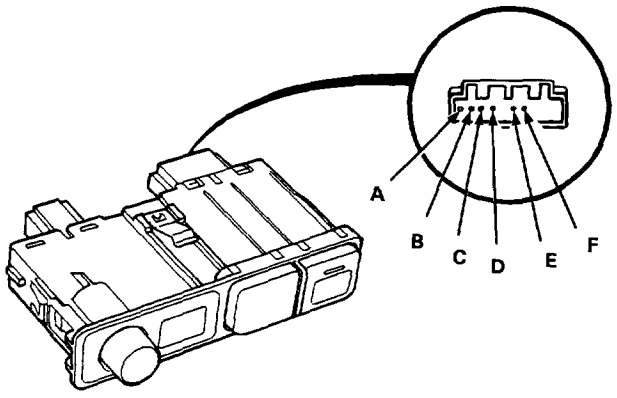


There should be continuity between the A and B terminals when the switch is pushed and there should be no continuity when the switch is released.

There should be continuity between the C and D terminals, and between the E and F terminals at all time.

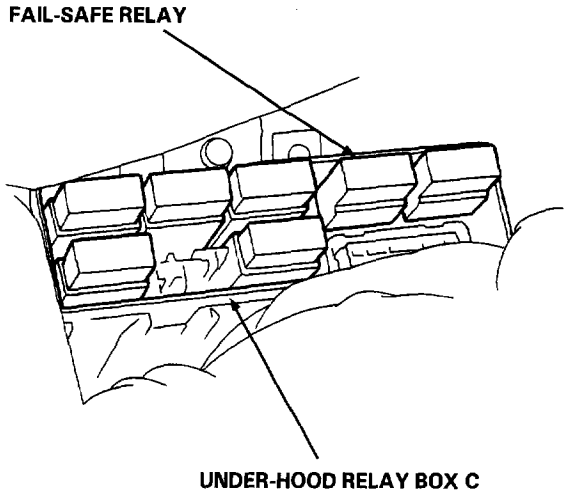
A-B: Switch
C-D: Indicator light
E-F: Illumination light



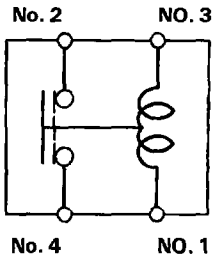


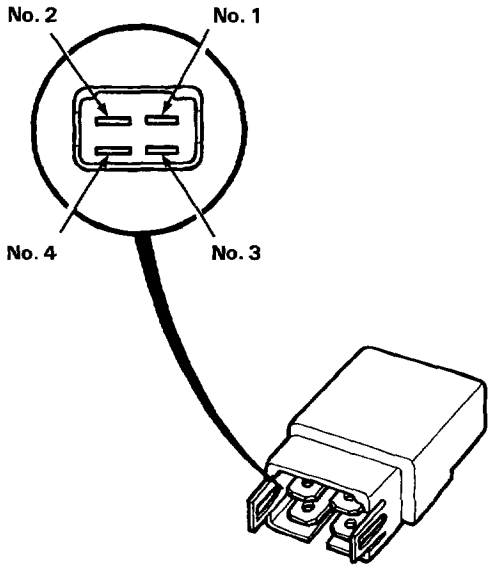
Fail-Safe Relay Test

Remove the fail-safe relay from under-hood relay box C.



There should be continuity between the No. 2 and No. 4 terminals when the battery is connected to the No. 1 and No. 3 terminals. There should be no continuity between the No. 2 and No. 4 terminals when the battery is disconnected.





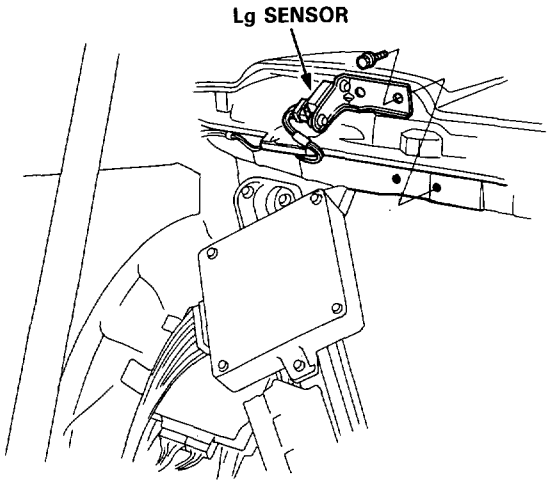
Lateral acceleration (Lg) Sensor Test

CAUTION: Be careful not to drop or bump the Lg sensor. *The Lg sensor may be damaged if dropped or bumped* hard.

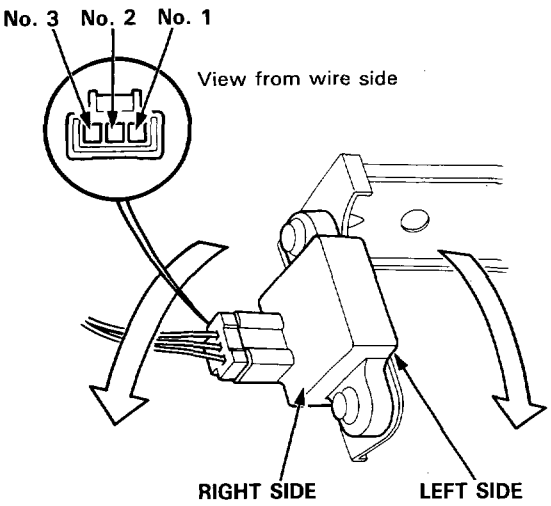
Remove the rear seat-back (see section 20).

Remove the Lg sensor with its bracket from the body.

NOTE: Do not remove the Lg sensor from the bracket unless necessary.

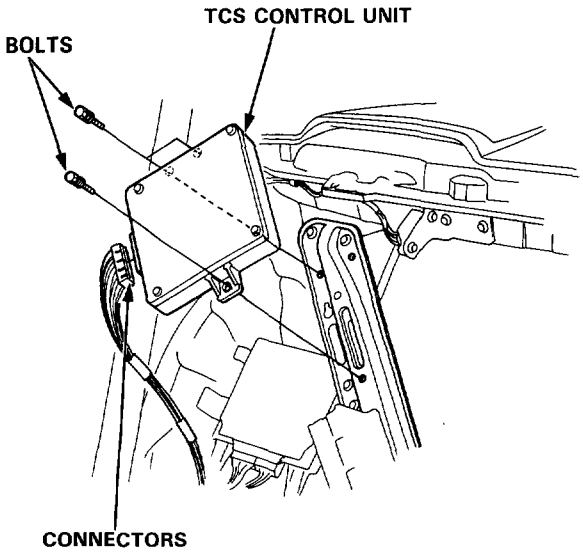


Turn the ignition switch ON.
Measure the voltage between the No. 2 (+) and No. 3 (−) terminals with the connector connected.
There should be approx. 2.5 V when the Lg sensor is vertical.
There should be approx. 1.5 V when the Lg sensor is horizontal with the left (bracket) side facing down.
There should be approx. 3.5 V when the Lg sensor is horizontal with the right (connector) side facing down.



TCS Control Unit Replacement

1. Remove the rear seat-back (see section 20).
2. Disconnect the connectors from the TCS control unit.
   Remove the three bolts and the TCS control unit.

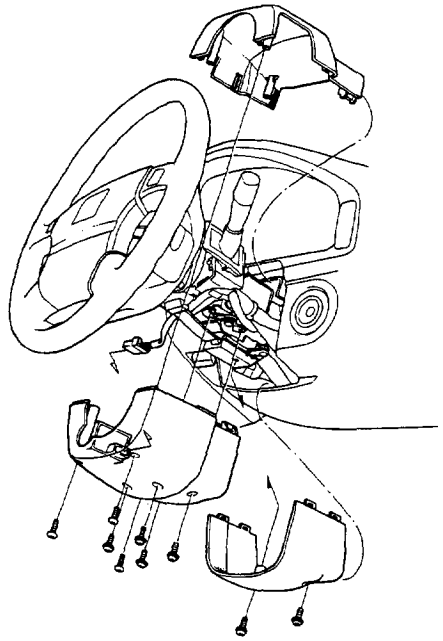


3. Install the TCS control unit in the reverse order of removal.

Electronic Components

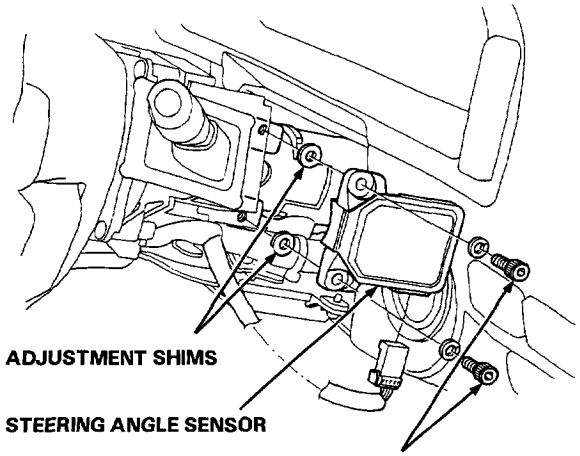
Steering Angle Sensor Replacement

1. Remove the column covers.



2. Disconnect the steering angle sensor 5P connector.
3. Remove the steering angle sensor mounting bolts.

   NOTE:
   There may be adjustment shims between the steering angle sensor and bracket. Take care not to drop or lose them.

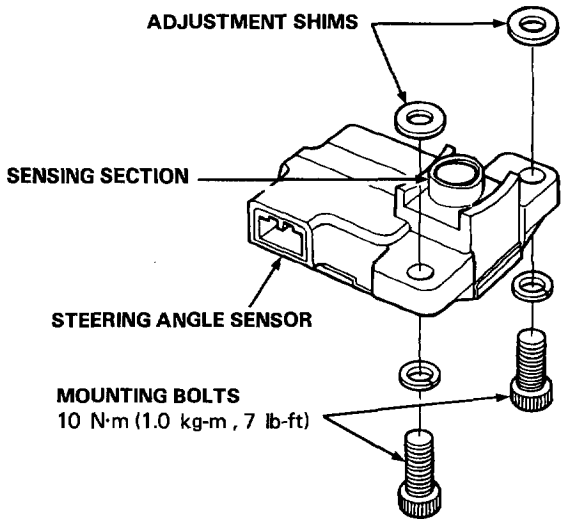


CAUTION:
The steering angle sensor is the precision instrument. Do not strike or drop it. The sensing section of the steering angle sensor is covered with the extremely thin protection film. Handle the steering angle sensor with care not to touch the sensing section with a hand and do not allow any parts and material to come in contact with the section.

4. Set the adjustment shims on the steering angle sensor and install the steering angle sensor on the steering column with care not to drop the shims tighten the mounting bolts.

   NOTE:
   After installation, check that the shims are installed properly and the steering angle sensor contacts with the bracket.

   CAUTION:
   Do not apply grease or adhesive agent to the adjustment shims with the intention of holding the shims in place or prevention of the shims from dropping.



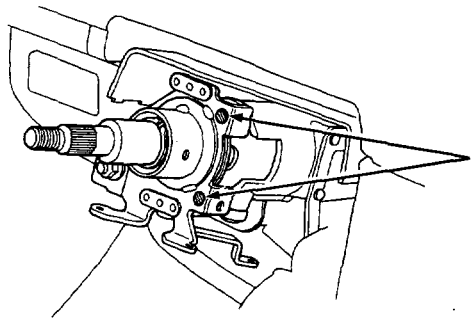
5. Connect the steering angle sensor 5P connector.
6. Install the column cover.
7. Perform the steering angle sensor system check (see page 19-26) to check that the steering angle sensor functions properly. If there is a problem, perform the troubleshooting for Problem Code 2-1 (see page 19-26).

Adjustment Shim Selection

NOTE:
The steering shaft-to-steering angle sensor clearance is controlled to stabilize the output of the steering angle sensor. Select the correct adjustment shims that match with the respective matching marks stamped on the steering column.

CAUTION:
It is necessary to select the shims only when the steering column assembly (without the steering angle sensor) has been replaced.
Use the original adjustment shims when the steering angle sensor is replaced.

The matching marks (numerical letter 1 through 8) are stamped on the steering column as shown.



Select the adjustment shims according to the following tables:

Adjustment Shim		
Part Name	Thickness	Color
Shim A	0.1 mm (0.004 in)	YELLOW
Shim B	0.2 mm (0.008 in)	BLACK
Shim C	0.4 mm (0.016 in)	GREEN
Shim D	0.7 mm (0.028 in)	WHITE

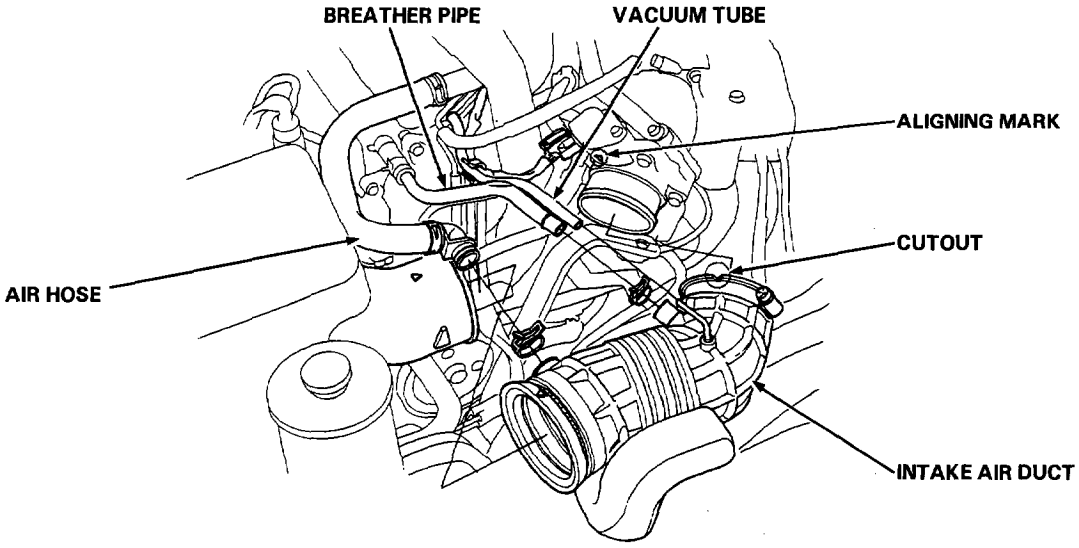
Matching Mark	Required Shim
1	None
2	A: 0.1 mm (0.004 in)
3	B: 0.2 mm (0.008 in)
4	A+B: 0.3 mm (0.012 in)
5	C: 0.4 mm (0.016 in)
6	A+C: 0.5 mm (0.020 in)
7	B+C: 0.6 mm (0.024 in)
8	D: 0.7 mm (0.028 in)

TCS Control Valve Assembly

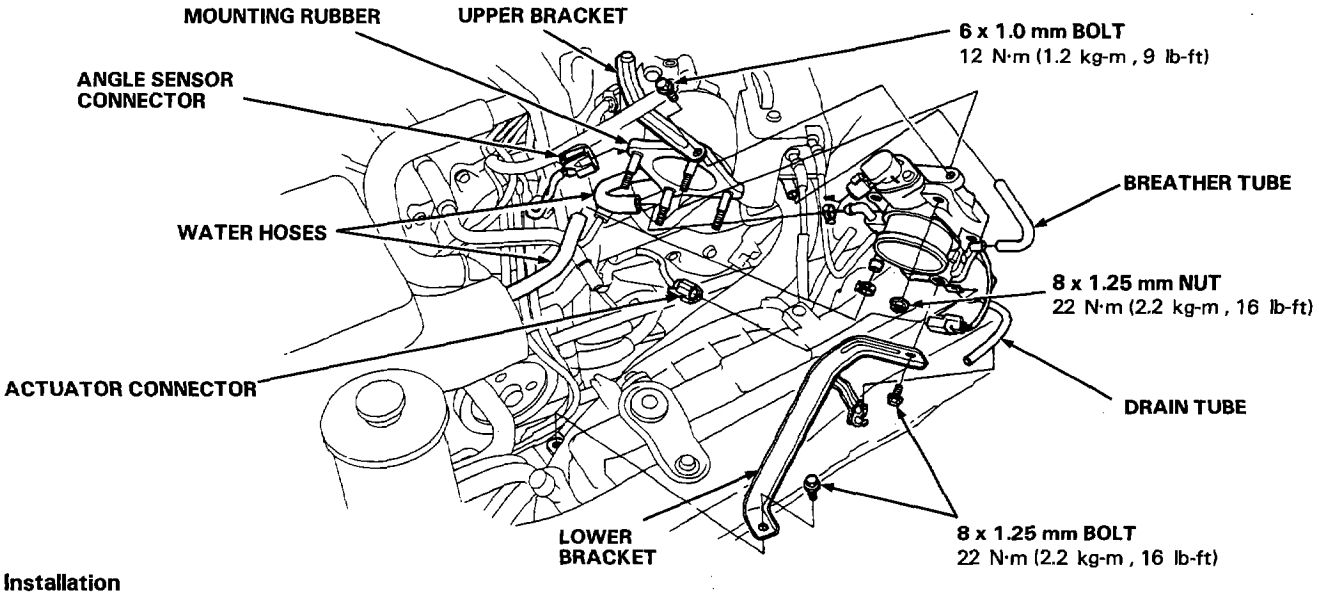
Removal/Installation

CAUTION:
Be careful not to damage the TCS control valve when handling the TCS control valve assembly.

Removal
Disconnect the vacuum tube, breather pipe and air hose from the intake air duct.
Loosen the intake air duct band screws and remove the intake air duct.



Disconnect the TCS control valve angle sensor connector and actuator connector.
Remove the drain tube from the clamp on the TCS control valve lower bracket.
Disconnect the water hoses and breather tube from the TCS control valve body.
Remove the TCS control valve brackets.
Remove the four nuts and the TCS control valve assembly from the mounting rubber.



Installation
Install the TCS control valve onto the mounting rubber and tighten the nuts.
Temporarily install the TCS control valve brackets.
Tighten the upper bracket bolt first, then tighten the lower bracket bolts.
Install the removed parts in the reverse order of removal.

NOTE:
Align the cutout in the air intake duct with the aligning mark on the TCS control valve body.

Body

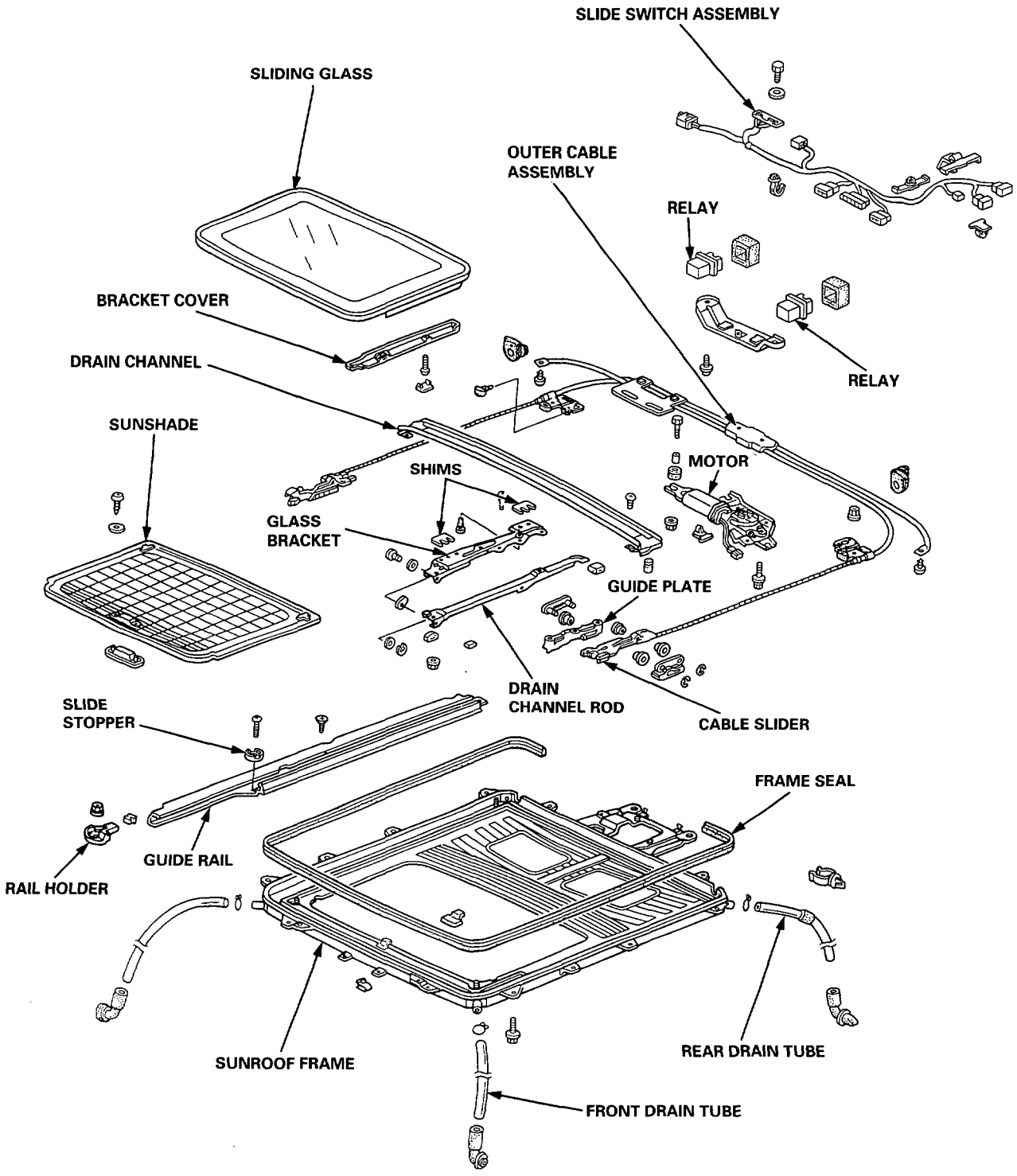
Rear Emblems
Installation 20-3
Sunroof
Index 20-2

Outline of Model Changes

- The rear emblems have been changed.
- The sunroof construction has been changed.

Sunroof

Index



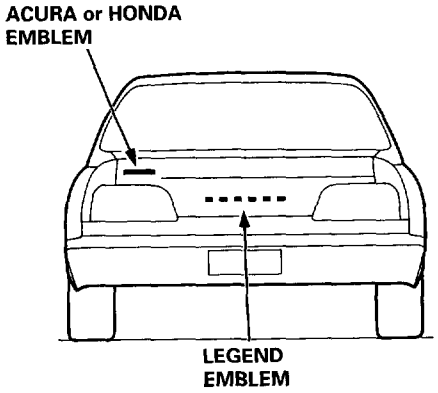
Rear Emblems

Installation

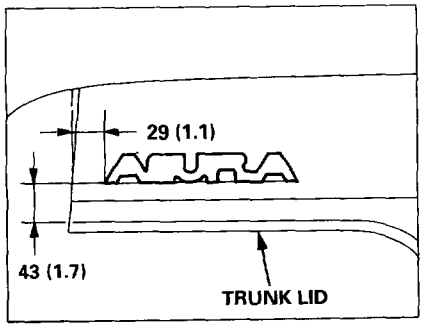
Apply the rear emblems where shown.

NOTE:
- Before applying, clean the trunk lid surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease and water from getting on the surface.
- When applying, make sure there are no wrinkles in the rear emblems.

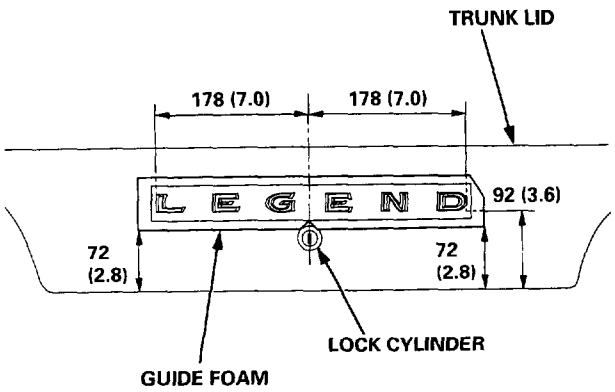
Attachment Points (Reference): Unit: mm (in)



〈ACURA or HONDA Emblem〉

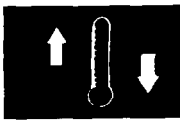


〈LEGEND Emblem〉



Automatic Climate Control

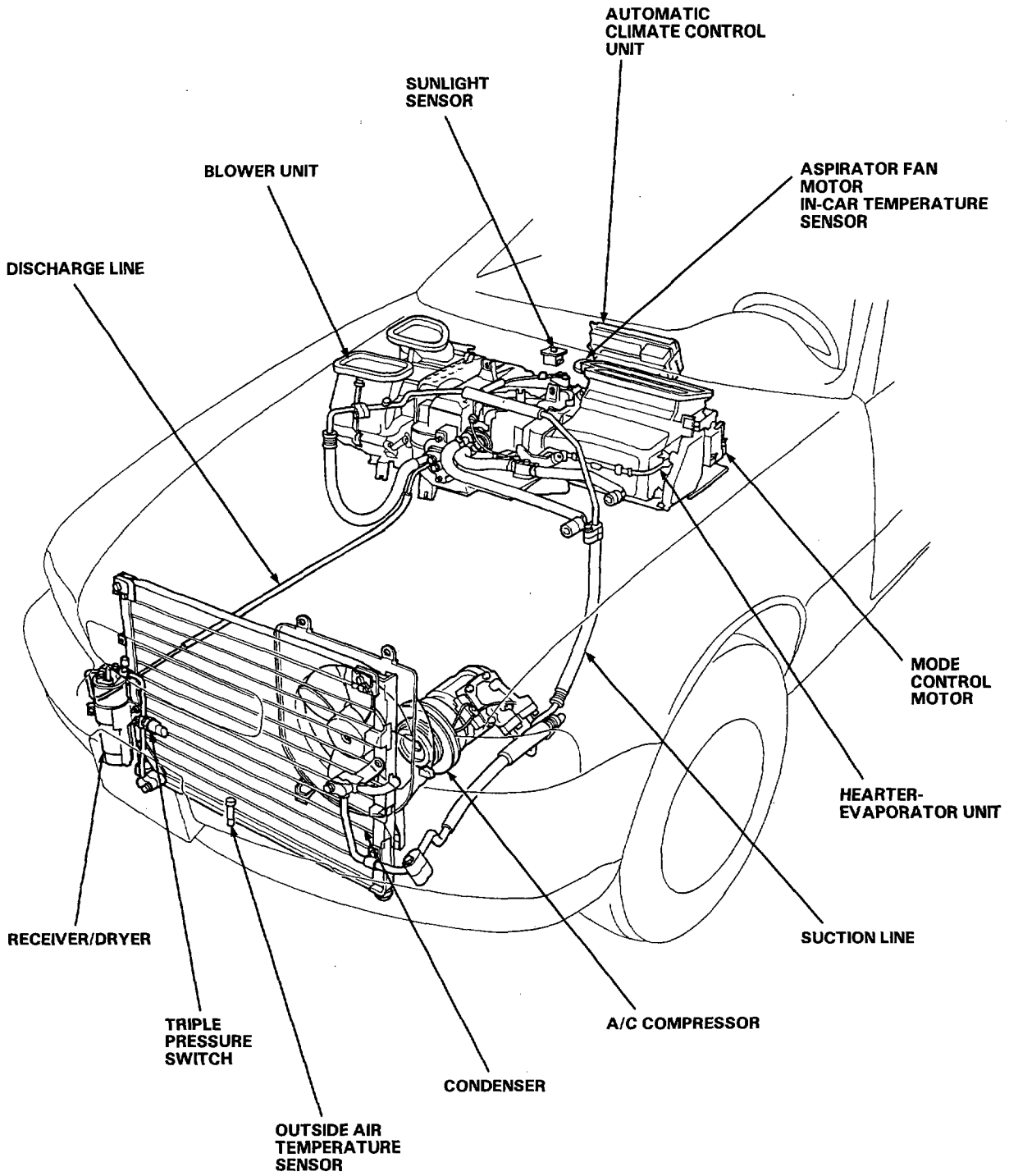
Illustrated Index 22-2
A/C System Service
Performance Test 22-3



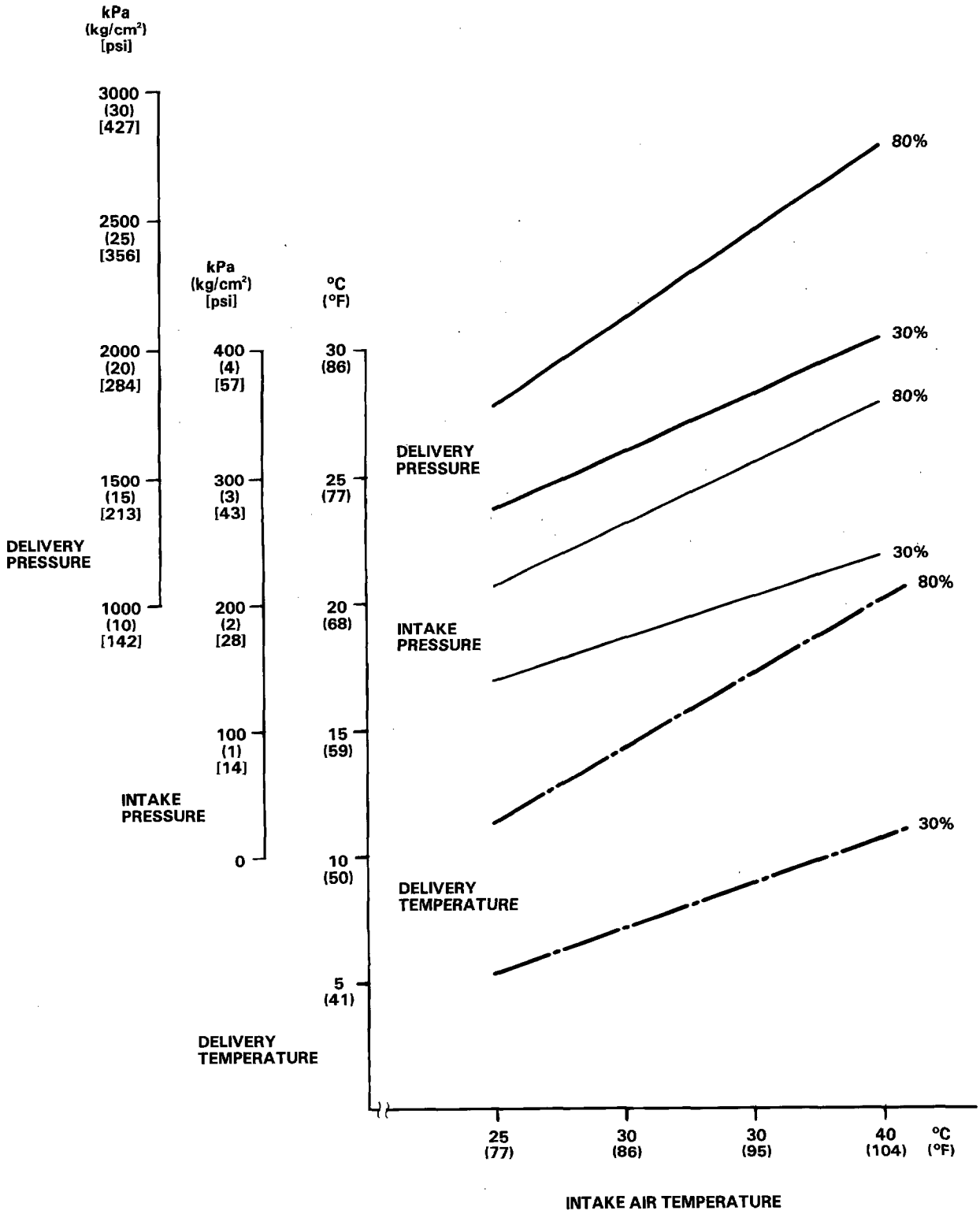
Outline of Model Changes

- The suction pipe of air conditioning system has been changed (LHD model).

Illustrated Index



Performance Test



Read this before you do any electrical work on the car.

The Legend Coupe Supplemental Restraint System (SRS) includes a driver's airbag, located in the steering wheel hub, a front passenger's airbag, located in the dashboard above the glove box, and seat belt pretensioners, located in the seat belt retractors.
Information necessary to safely service the SRS is included in the '93 Legend Coupe Shop Manual Supplement (62SP121). Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done only by an authorized Honda dealer.

⚠ WARNING

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS testing and repair must be done by an authorized Honda dealer.**
- **Improper procedures, including incorrect removal and installation of the SRS components, could lead to personal injury caused by unintentional activation of the airbags and seat belt pretensioners.**
- **All SRS electrical wiring harnesses are covered with yellow outer insulation. Related components are located in the steering column, center console and armrest, dashboard lower panel, and in the dashboard above the glove box. Do not use electrical test equipment on these circuits.**

Electrical

Brake Lights 23-15
Gauge Assembly 23-2
***Keyless Entry System (Except KU model) 23-17**
Safety Indicator 23-10
***Shift Lever Position Indicator 23-7**

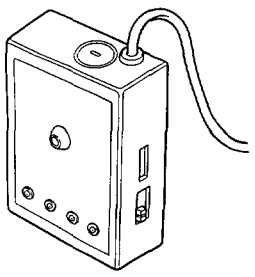
*Read SRS precautions on page 23-41 of the 93 Legend Coupe Shop Manual Supplement (62SP121), then install the short connectors on the airbags before working in these areas.

Outline of Model Changes

- Brake Light: The failure sensors of all models have been changed.
- Gauge Assembly: The TCS and Tire Pressure Watching System (TWS) lights have been added to the KG, KX, KF, and KS models.
- Keyless/Power Door Locks: A trunk receiver unit has been added, and the system has been renamed to "Keyless Entry System".
- Safety Indicator: The failure sensors of all models have been changed.
- Shift Lever Position Indicator: The circuit has been partly changed.

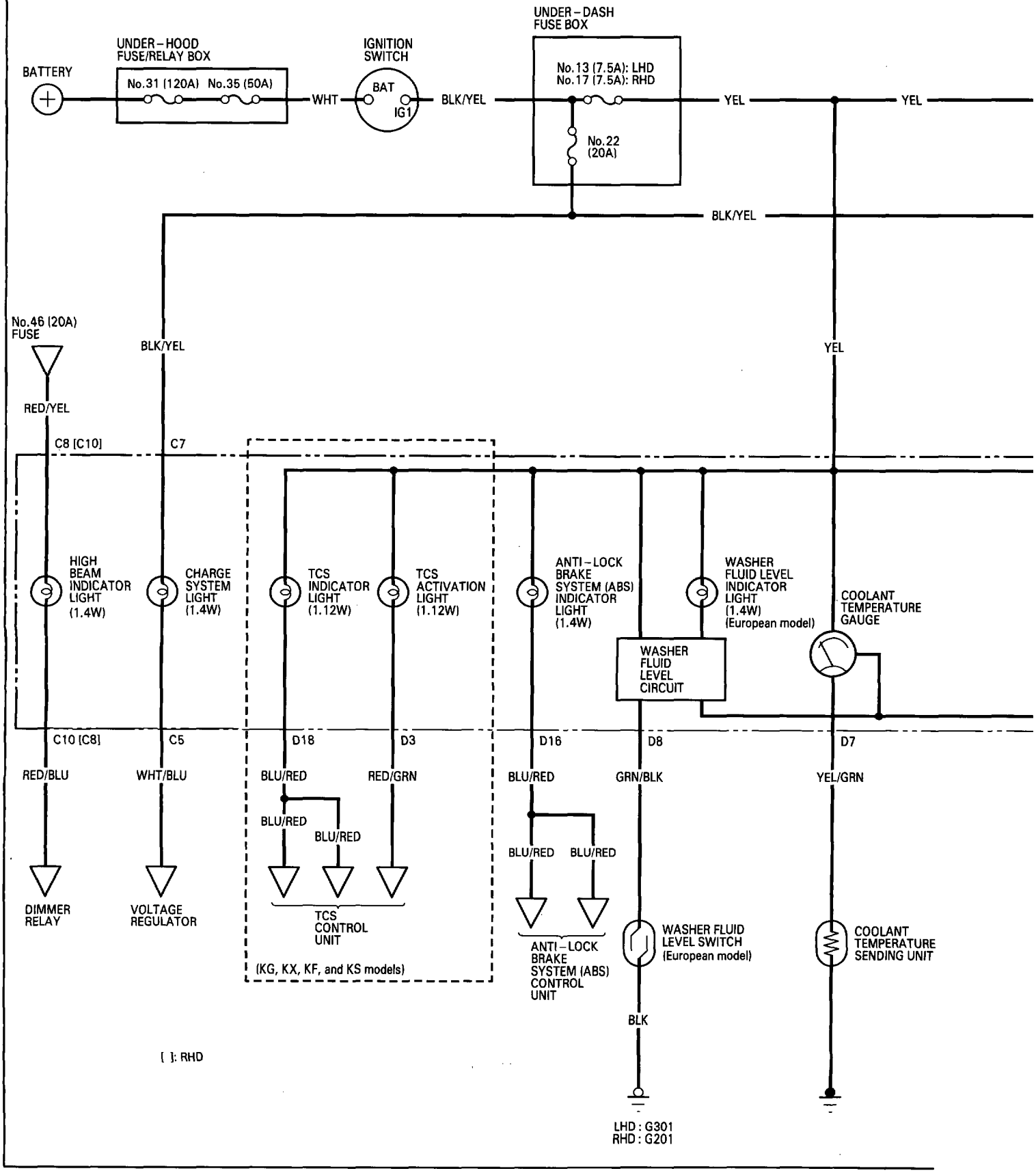
Special Tool

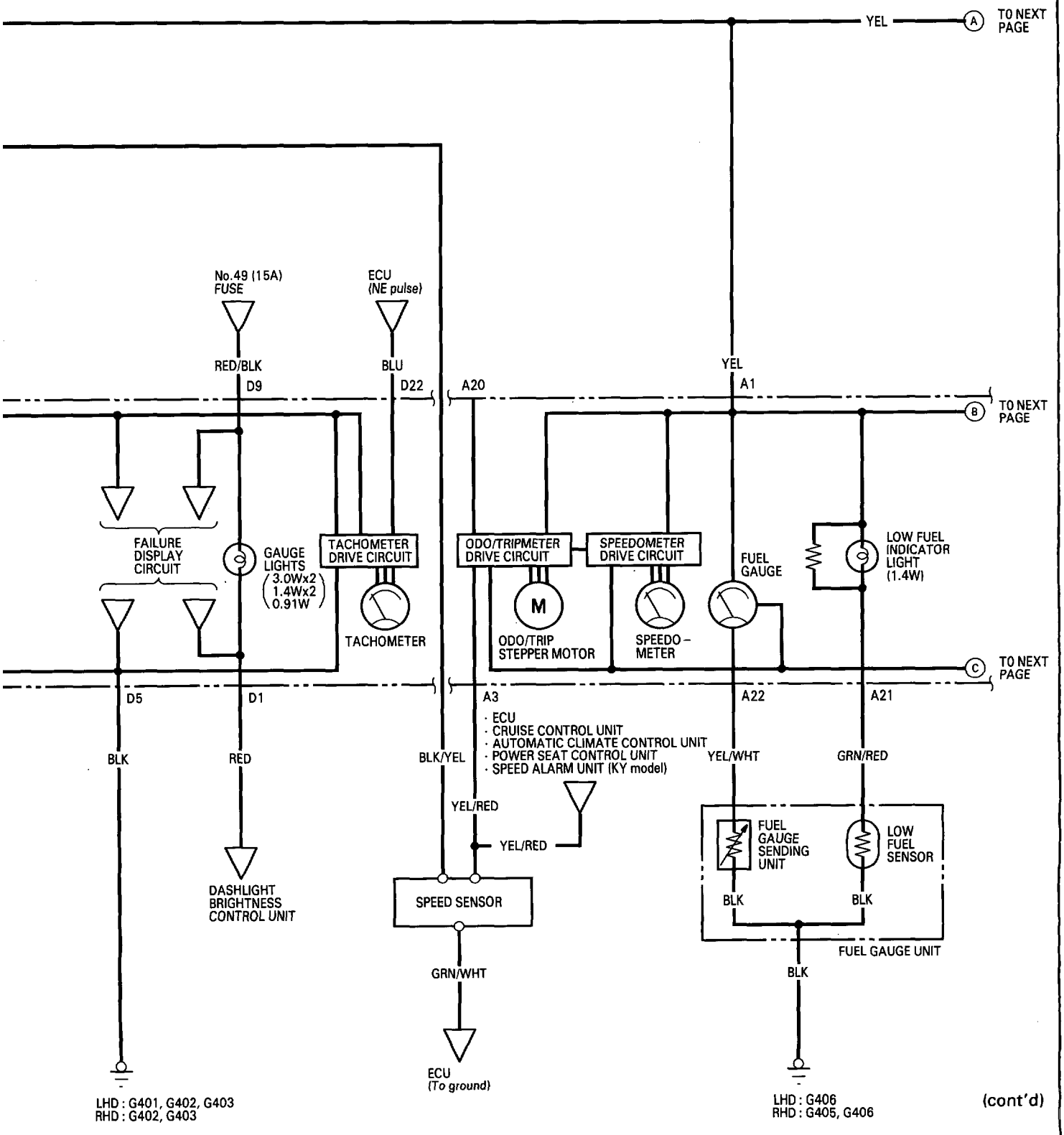
Ref. No.	Tool Number	Description	Qty	Page Reference
①	07MAJ—SP00200	Keyless Entry Checker	1	23-23



Gauge Assembly

Circuit Diagram

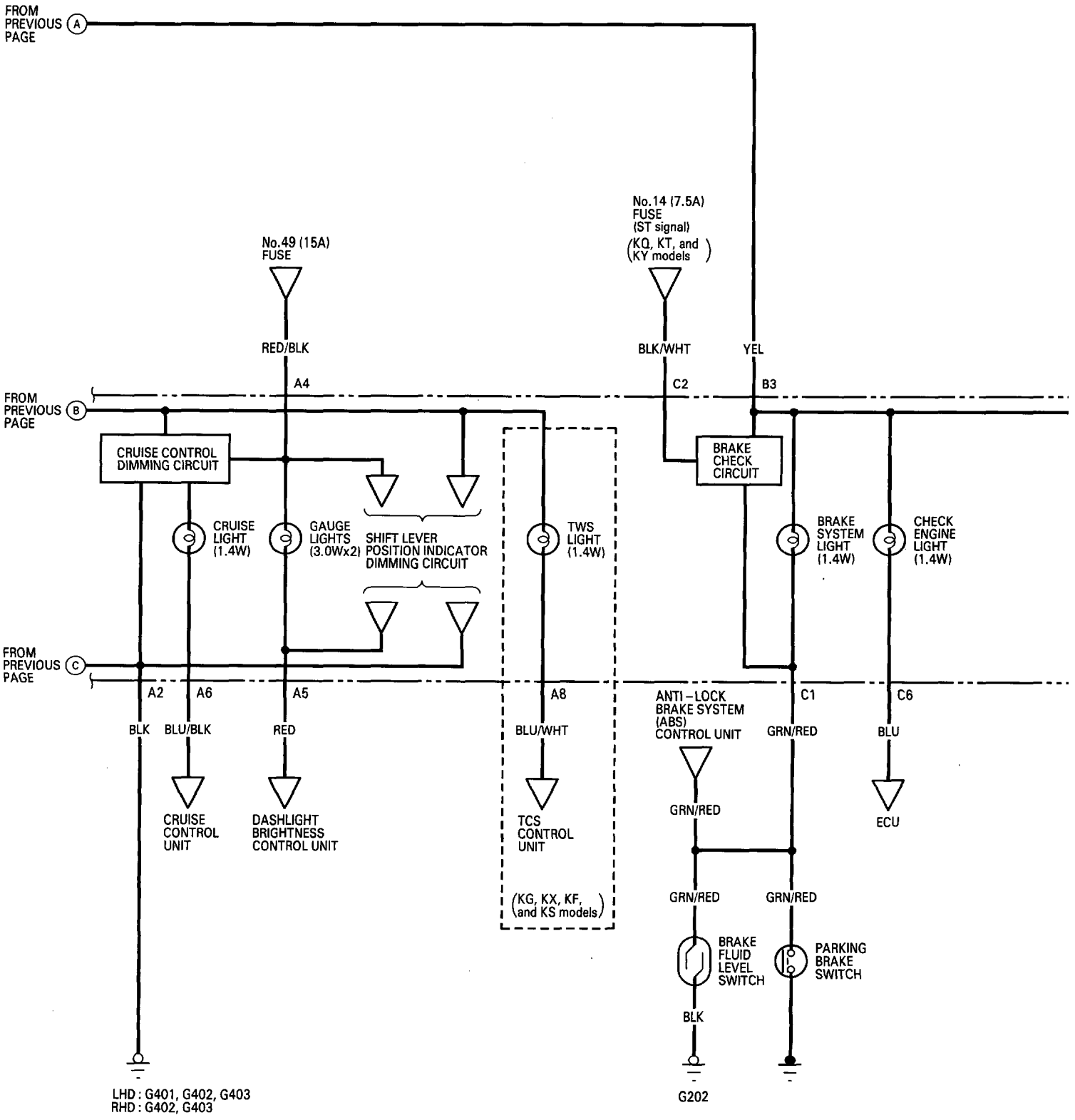


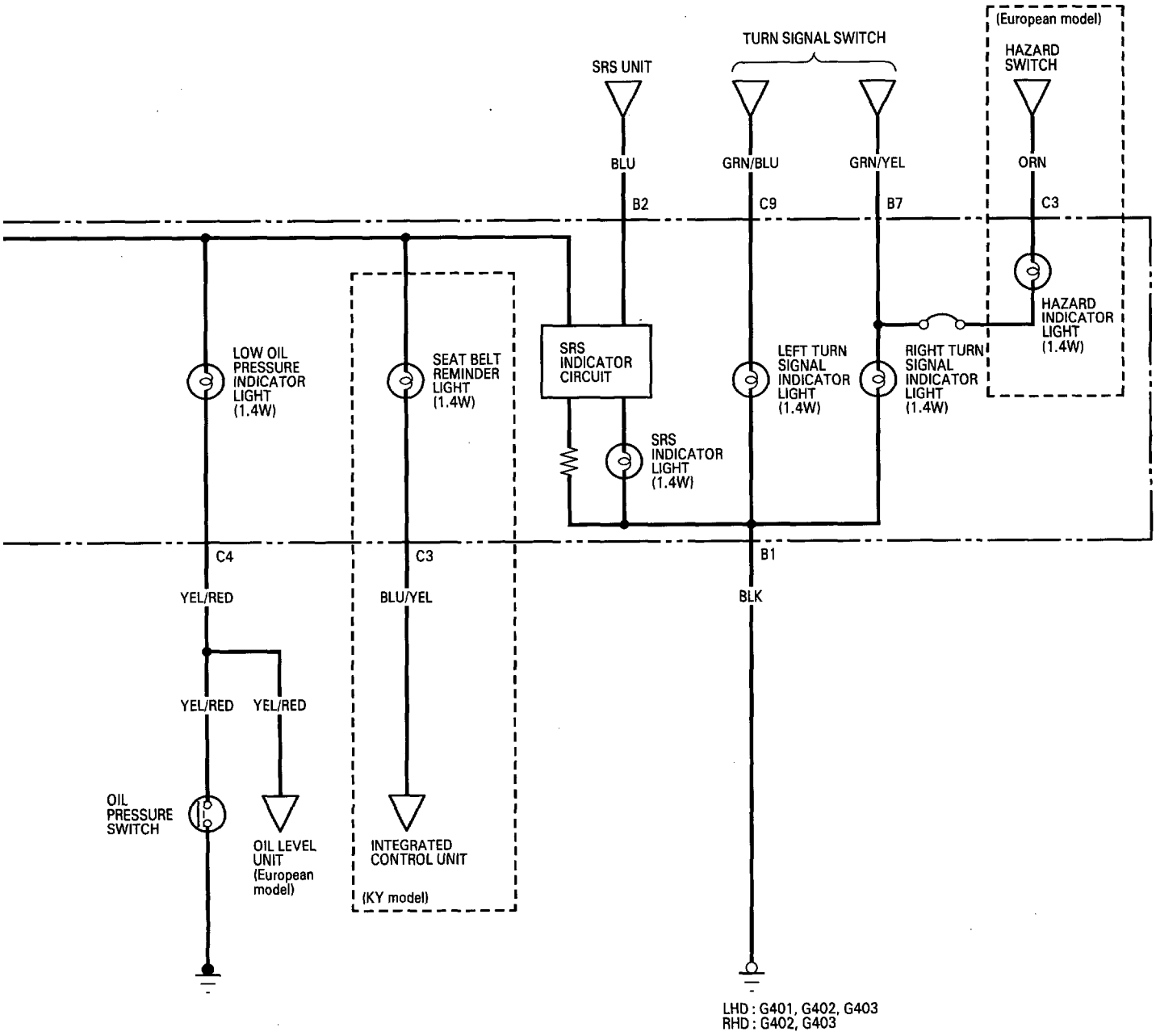

YEL
A
TO NEXT PAGE
No.49 (15A) FUSE
ECU (NE pulse)
RED/BLK
BLU
YEL
D9
D22
A20
A1
B
TO NEXT PAGE
FAILURE DISPLAY CIRCUIT
GAUGE LIGHTS (3.0Wx2 1.4Wx2 0.91W)
TACHOMETER DRIVE CIRCUIT
TACHOMETER
ODO/TRIPMETER DRIVE CIRCUIT
SPEEDOMETER DRIVE CIRCUIT
M
ODO/TRIP STEPPER MOTOR
SPEEDO-METER
FUEL GAUGE
LOW FUEL INDICATOR LIGHT (1.4W)
C
TO NEXT PAGE
D5
D1
A3
A22
A21
· ECU
· CRUISE CONTROL UNIT
· AUTOMATIC CLIMATE CONTROL UNIT
· POWER SEAT CONTROL UNIT
· SPEED ALARM UNIT (KY model)
BLK
RED
BLK/YEL
YEL/WHT
GRN/RED
YEL/RED
YEL/RED
FUEL GAUGE SENDING UNIT
LOW FUEL SENSOR
DASHLIGHT BRIGHTNESS CONTROL UNIT
SPEED SENSOR
BLK
BLK
FUEL GAUGE UNIT
GRN/WHT
BLK
ECU (To ground)
LHD : G401, G402, G403
RHD : G402, G403
LHD : G406
RHD : G405, G406

(cont'd)

Gauge Assembly

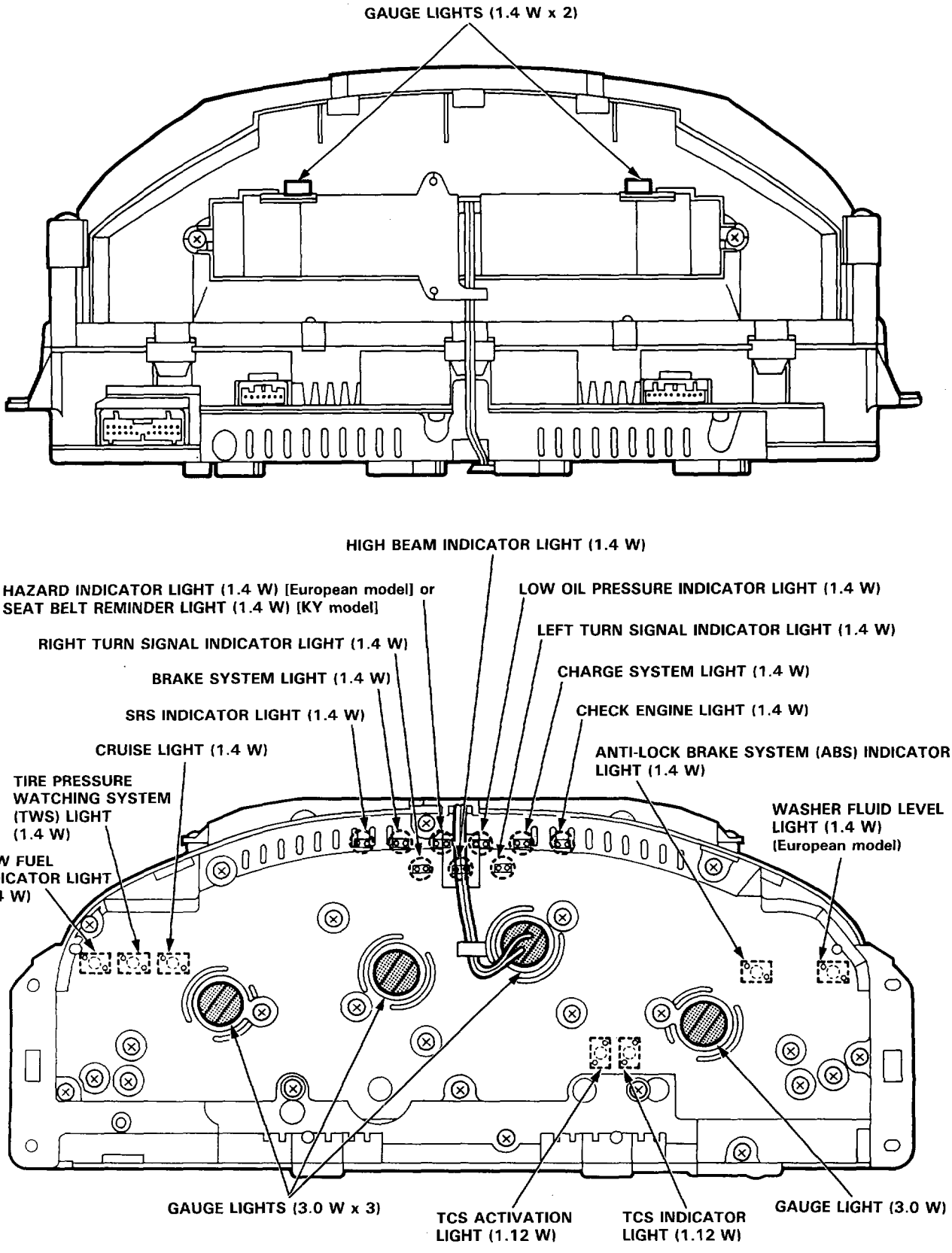
Circuit Diagram (cont'd)




(European model)
TURN SIGNAL SWITCH
SRS UNIT
HAZARD SWITCH
BLU
GRN/BLU
GRN/YEL
ORN
B2
C9
B7
C3
HAZARD INDICATOR LIGHT (1.4W)
LOW OIL PRESSURE INDICATOR LIGHT (1.4W)
SEAT BELT REMINDER LIGHT (1.4W)
SRS INDICATOR CIRCUIT
LEFT TURN SIGNAL INDICATOR LIGHT (1.4W)
RIGHT TURN SIGNAL INDICATOR LIGHT (1.4W)
SRS INDICATOR LIGHT (1.4W)
C4
C3
B1
YEL/RED
BLU/YEL
BLK
YEL/RED
YEL/RED
OIL PRESSURE SWITCH
OIL LEVEL UNIT (European model)
INTEGRATED CONTROL UNIT
(KY model)
LHD : G401, G402, G403
RHD : G402, G403

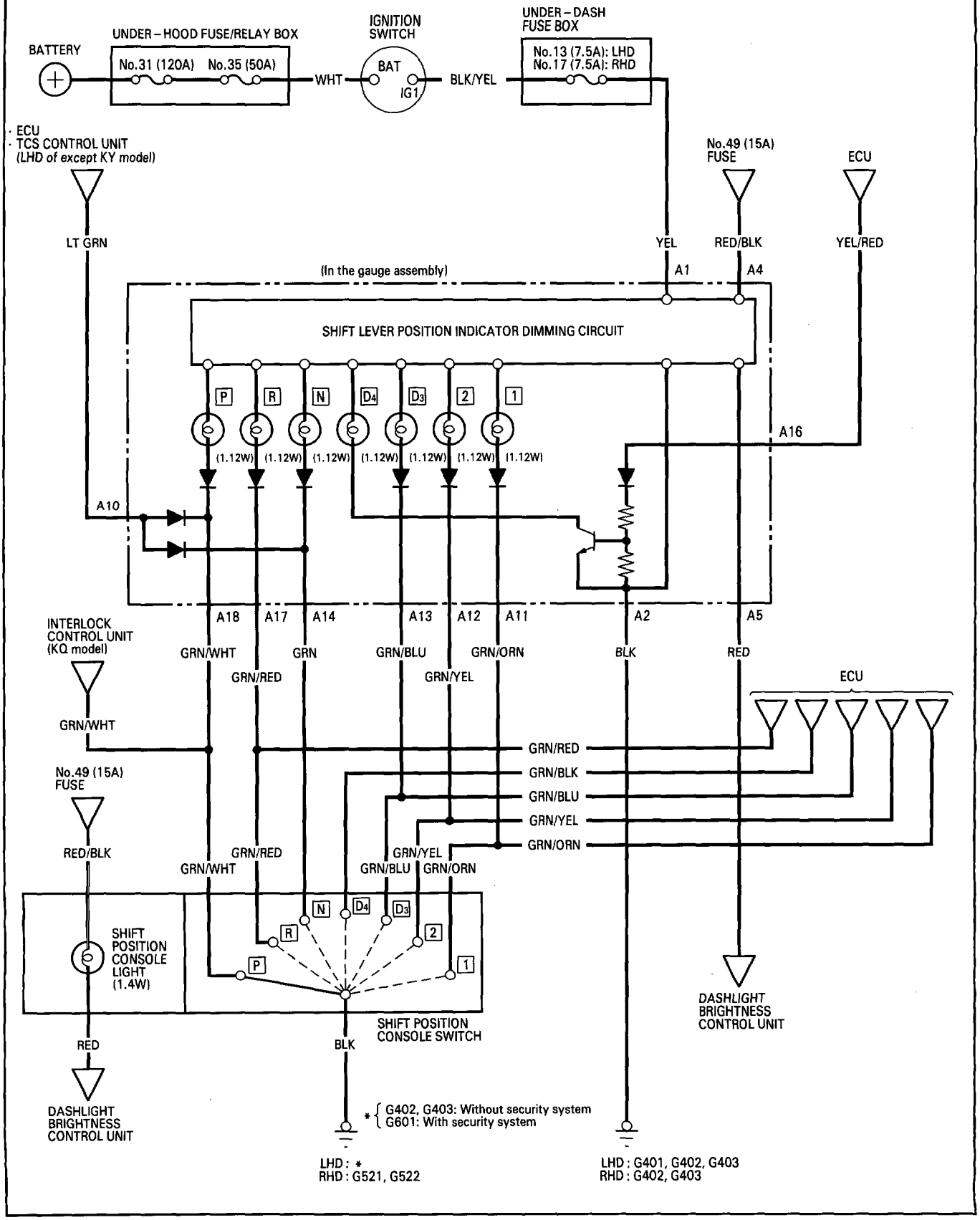
Gauge Assembly

Bulb Location



Shift Lever Position Indicator

Circuit Diagram



Shift Lever Position Indicator

Indicator Input Test

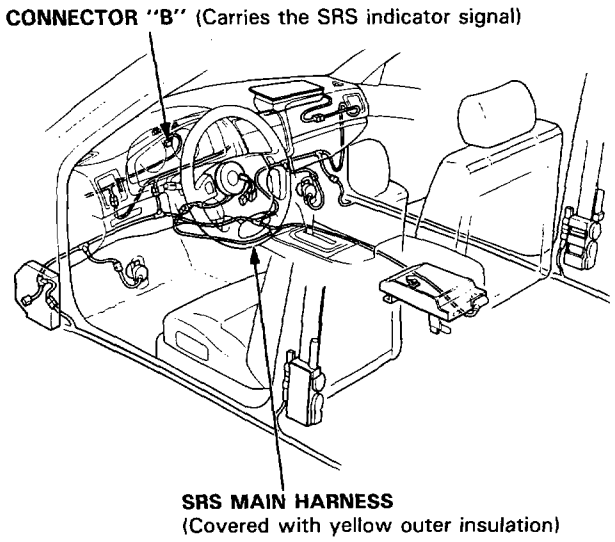
CAUTION:

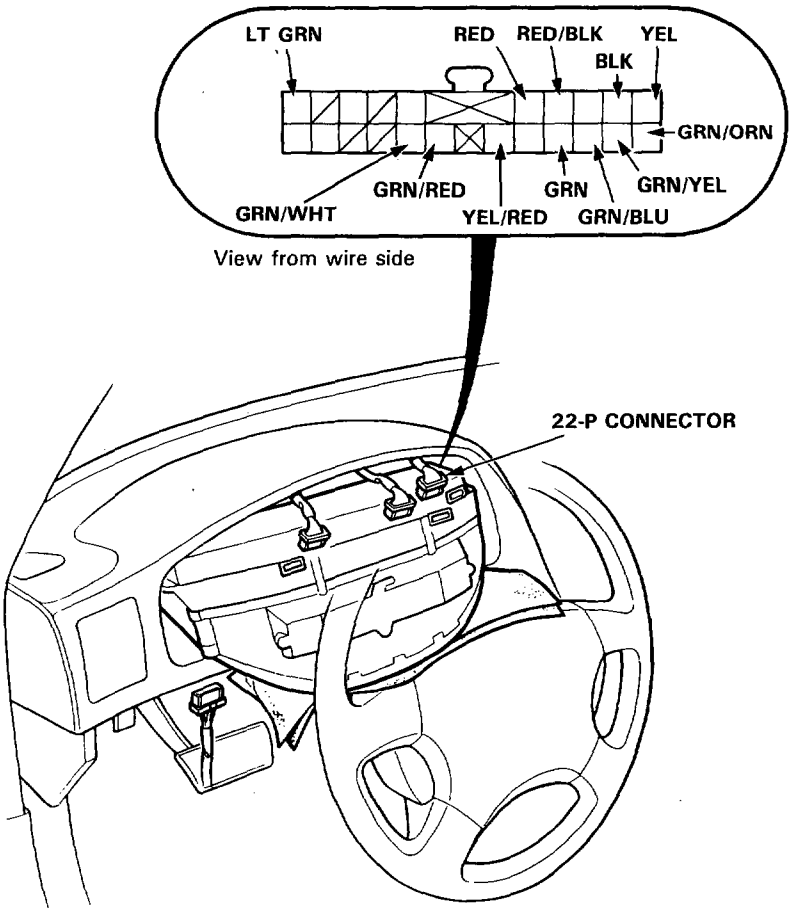
- **All SRS wiring harnesses are covered with yellow outer insulation.**
- **Before disconnecting any part of the SRS wire harness, install the short connectors (see page 23-41 of the 93 Legend Coupe Shop Manual Supplement [62SP121]).**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**
- **After installing the gauge assembly, recheck the operation of the SRS indicator light.**

Remove the gauge assembly from the dashboard and disconnect the 22-P connector from the gauge assembly. Inspect the connector terminals to be sure they are all making good contact.

- If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.

- If the terminals look OK, make the following input tests at the connector.
  - If any test indicates a problem, find and correct the cause, then recheck the system.
  - If all the input tests prove OK, the indicator must be faulty; replace printed circuit board A and the odo/trip meter.



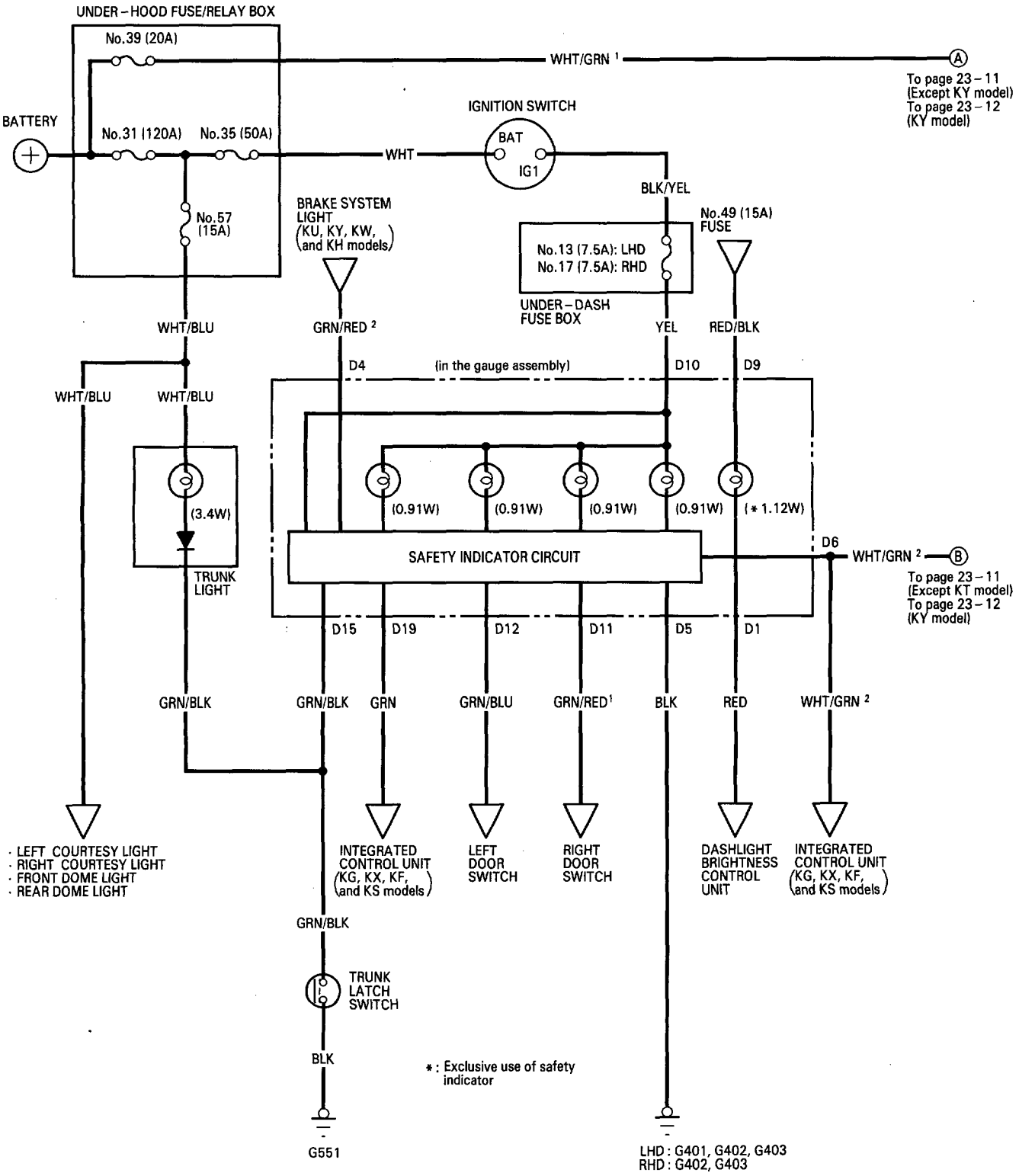


No.	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground (G401, G402, G403: LHD or G402, G403: RHD) • An open in the wire
2	YEL	Ignition switch ON (II)	Check for voltage to ground: There should be battery voltage.	• Blown No. 13: LHD or No. 17: RHD (7.5 A) fuse • An open in the wire
3	GRN/WHT	Shift lever in [P]	Check for continuity to ground: There should be continuity.	• Faulty shift position console switch • Poor ground (G601* or G402, G403: LHD or G521, G522: RHD) • An open in the wire
	GRN/RED	Shift lever in [R]		
	GRN	Shift lever in [N]		
	GRN/BLU	Shift lever in [D3]		
	GRN/YEL	Shift lever in [2]		
	GRN/ORN	Shift lever in [1]		
4	YEL/RED	Ignition switch ON (II) and shift lever in [D4]	Check for voltage to ground: There should be battery voltage.	• Faulty shift position console switch • Faulty ECU • Poor ground (G601* or G402, G403: LHD or G521, G522: RHD) • An open in the wire
		Ignition switch ON (II) and shift lever in any position except [D4]	Check for voltage to ground: should be less than 1 V for two seconds after the ignition switch is turned ON and more than battery voltage two seconds later.	• Faulty ECU • An open in the wire
5	RED/BLK and RED	Lighting switch ON and dash lights brightness control dial on full bright	Check for voltage between RED/BLK and RED terminals: should be battery voltage.	• Faulty dash lights brightness control system • An open in the wire
6	LT GRN	Ignition switcn ON (II)	Check for voltage to ground: should be about 5 V.	• Faulty ECU • An open in the wire

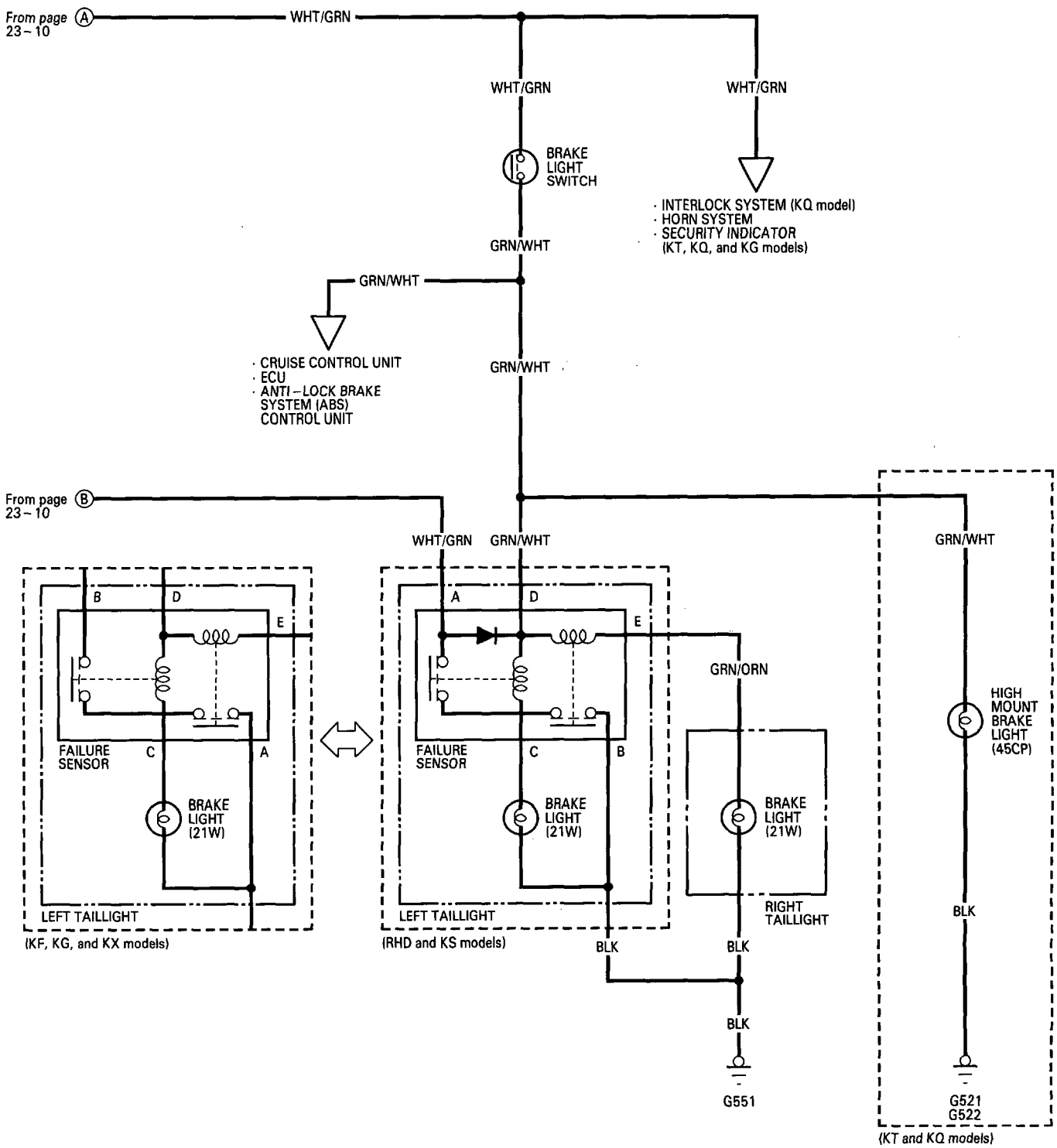
*: With security system

Safety Indicator

Circuit Diagram



Except KY model:

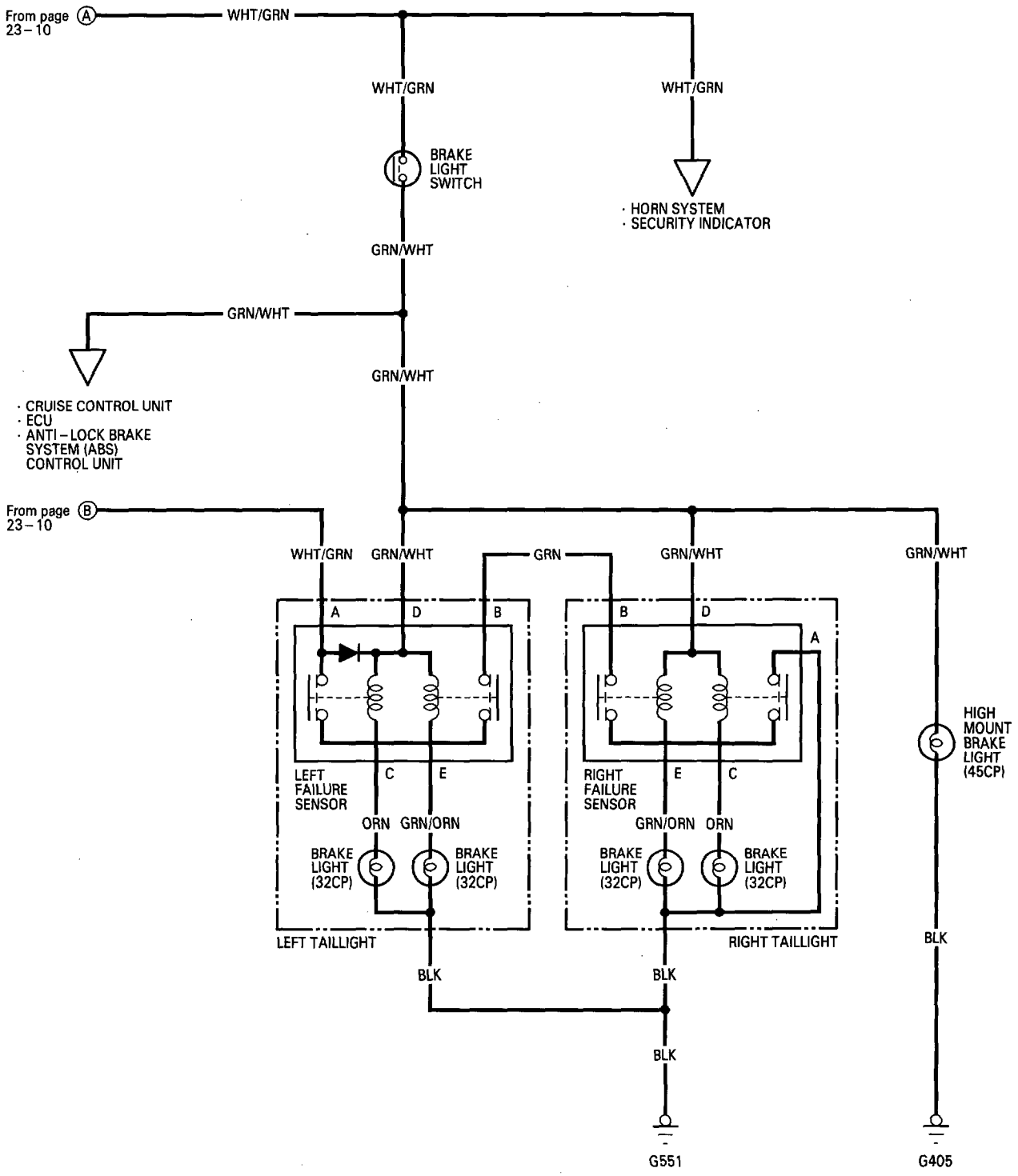


(cont'd)

Safety Indicator

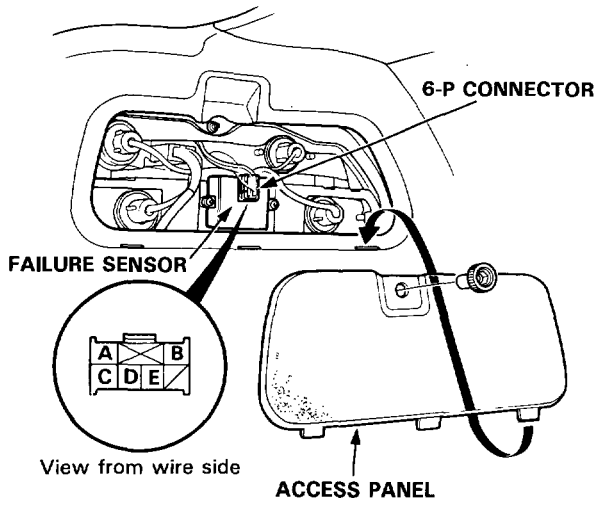
Circuit Diagram (cont'd)

KY models:



Brake Light Failure Sensor Test (Except KY model)

1. First make sure the brake lights come on when the brake pedal is pressed.
   - If all brake lights come on, go to step 2.
   - If one of the brake lights does not come on, check whether the bulb is blown. If the bulb is OK, go to step 2.
   - If none of the brake lights come on, check the brake light circuit (see page 23-15).
2. Open the trunk lid and remove the access panel to the left taillight. Watch the BRAKE LAMP light in the safety indicator when the A (RHD) or B (LHD) (WHT/GRN) wire of the 6-P connector is grounded and the ignition switch is turned from OFF to ON (II).

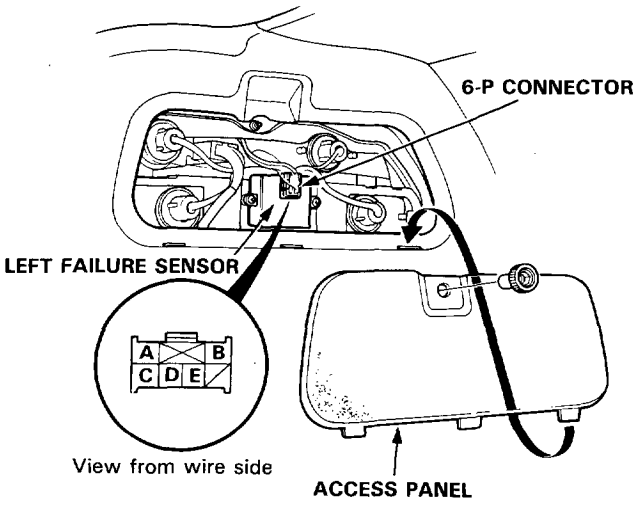


   - If the BRAKE LAMP light comes on and stays on, check for an open in the A (RHD) or B (LHD) (WHT/GRN) wire between the safety indicator and the failure sensor.
   - If the BRAKE LAMP light does not stay on, go to step 3.
3. Watch the BRAKE LAMP light as you turn the ignition switch from OFF to ON (II), with the B (RHD) or A (LHD) (GRN) wire of the 6-P connector grounded and the brake pedal pressed.
   - If the BRAKE LAMP light comes on and stays on, check for
     - an open in the B (RHD) or A (LHD) (BLK) wire between failure sensor and ground.
     - poor ground at G551.
     - an open in the E (GRN/ORN) wire between failure sensor and right brake light.
     - an open in the BLK wire between right brake light and ground.
   - If the BRAKE LAMP light comes on and stays on, replace the failure sensor.

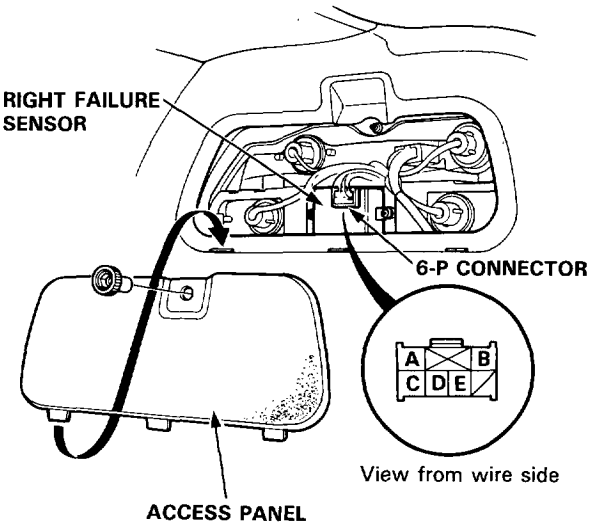
Safety Indicator

Brake Light Failure Sensor Test (KY model)

1. First make sure the brake lights come on when the brake pedal is pressed.
   - If all brake lights come on, go to step 2.
   - If one of the brake lights does not come on, check whether the bulb is blown. If the bulb is OK, go to step 2.
   - If none of the brake lights come on, check the brake light circuit (see page 23-16).
2. Open the trunk lid and remove the access panel to the left taillight. Watch the BRAKE LAMP light in the safety indicator when the A (WHT/GRN) wire of the 6-P connector is grounded and the ignition switch is turned from OFF to ON (II).



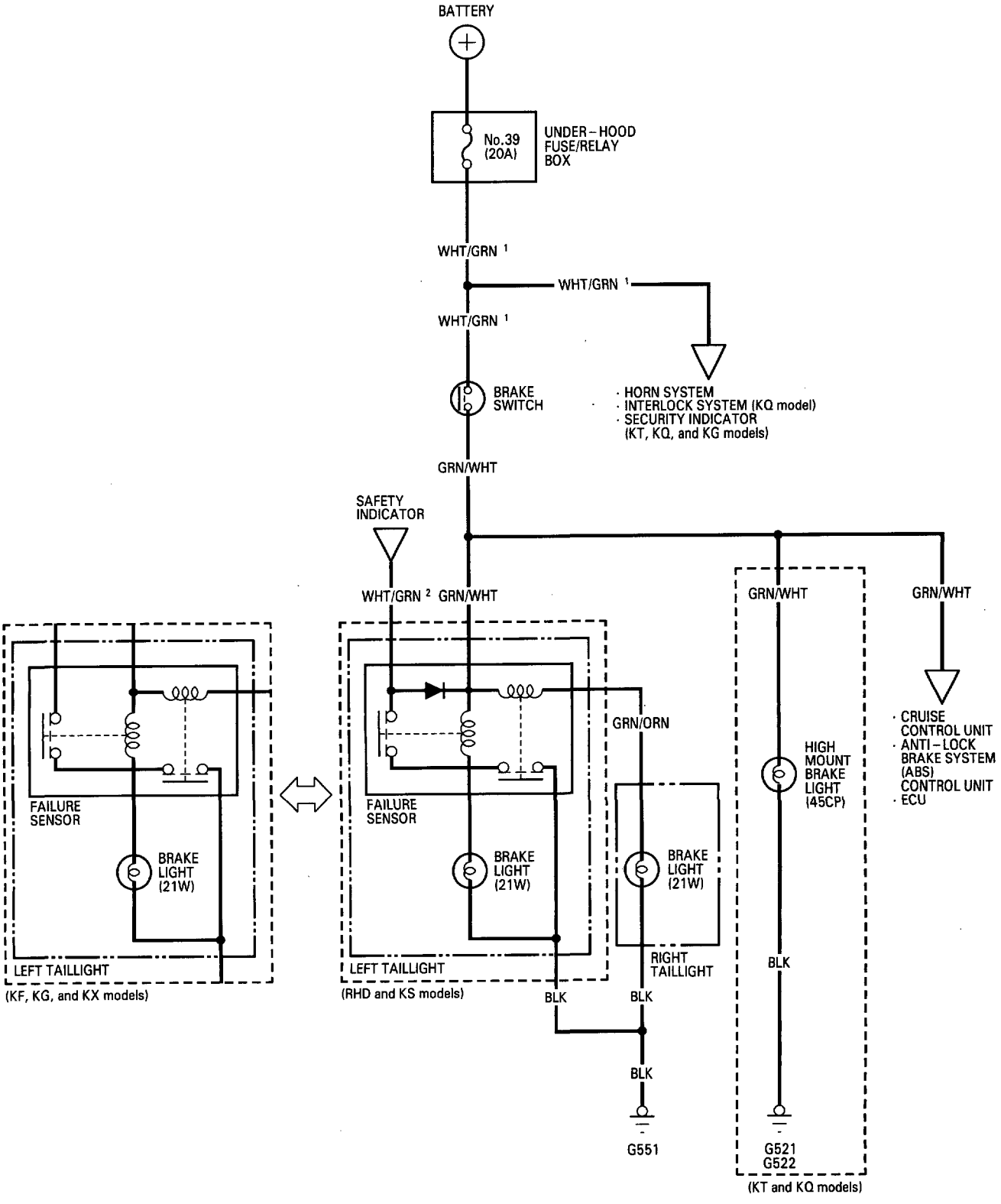
   - If the BRAKE LAMP light comes on and stays on, check for an open in the A (WHT/GRN) wire between the safety indicator and the left failure sensor.
   - If the BRAKE LAMP light does not stay on, go to step 3.
3. Watch the BRAKE LAMP light as you turn the ignition switch from OFF to ON (II), with the B (GRN) wire of the 6-P connector grounded and the brake pedal pressed.
   - If the BRAKE LAMP light comes on and stays on, replace the left failure sensor.
   - If the BRAKE LAMP light does not stay on, go to step 4.
4. Remove the access panel to the right taillight. Watch the BRAKE LAMP light as you turn the ignition switch from OFF to ON (II), with the B (GRN) wire of the 6-P connector grounded and the brake pedal pressed.



   - If the BRAKE LAMP light comes on and stays on, there is an open in the B (GRN) wire between the left failure sensor and the right failure sensor.
   - If the BRAKE LAMP light does not stay on, go to step 5.
5. Watch the BRAKE LAMP light as you turn the ignition switch from OFF to ON (II), with the A (BLK) wire of the 6-P connector grounded and the brake pedal pressed.
   - If the BRAKE LAMP light comes on and stays on, replace the right failure sensor.
   - If the BRAKE LAMP light does not stay on, check for an open in the A (BLK) wire between the right failure sensor and ground, and check for a poor ground at G551.

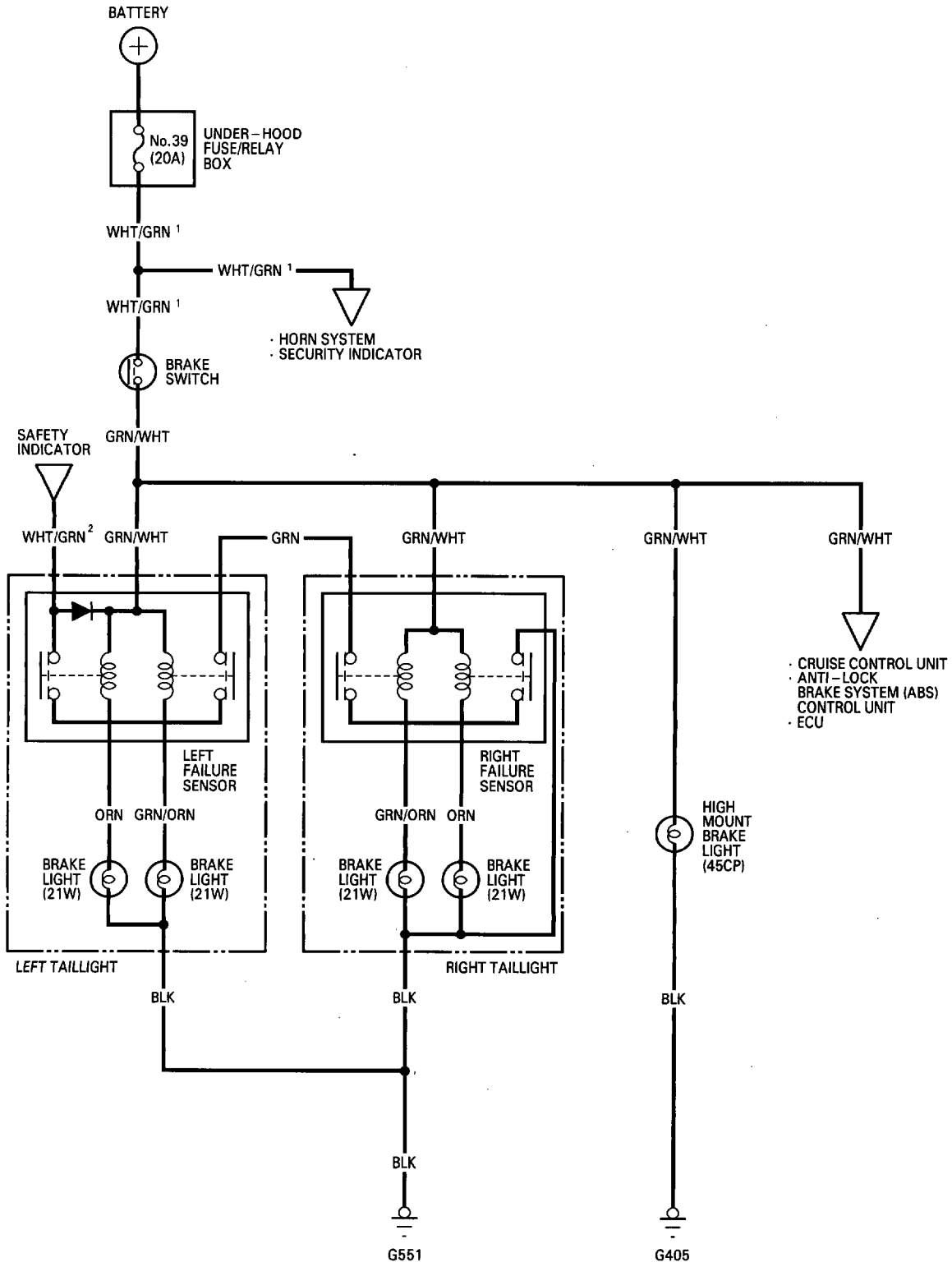
Brake Lights

Circuit Diagram (Except KY model)



Brake Lights

Circuit Diagram (KY model)



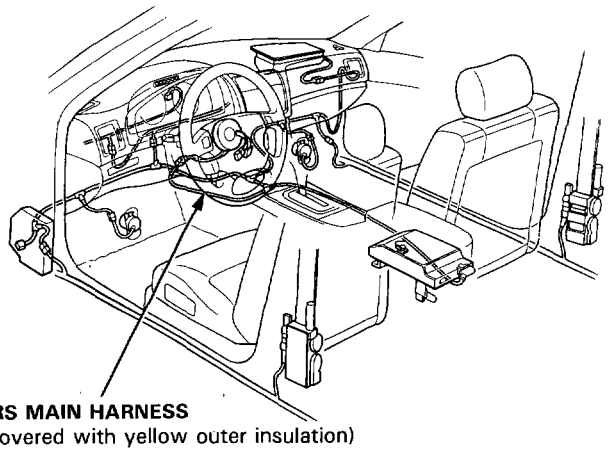
Keyless Entry System (Except KU model)

Component Location Index

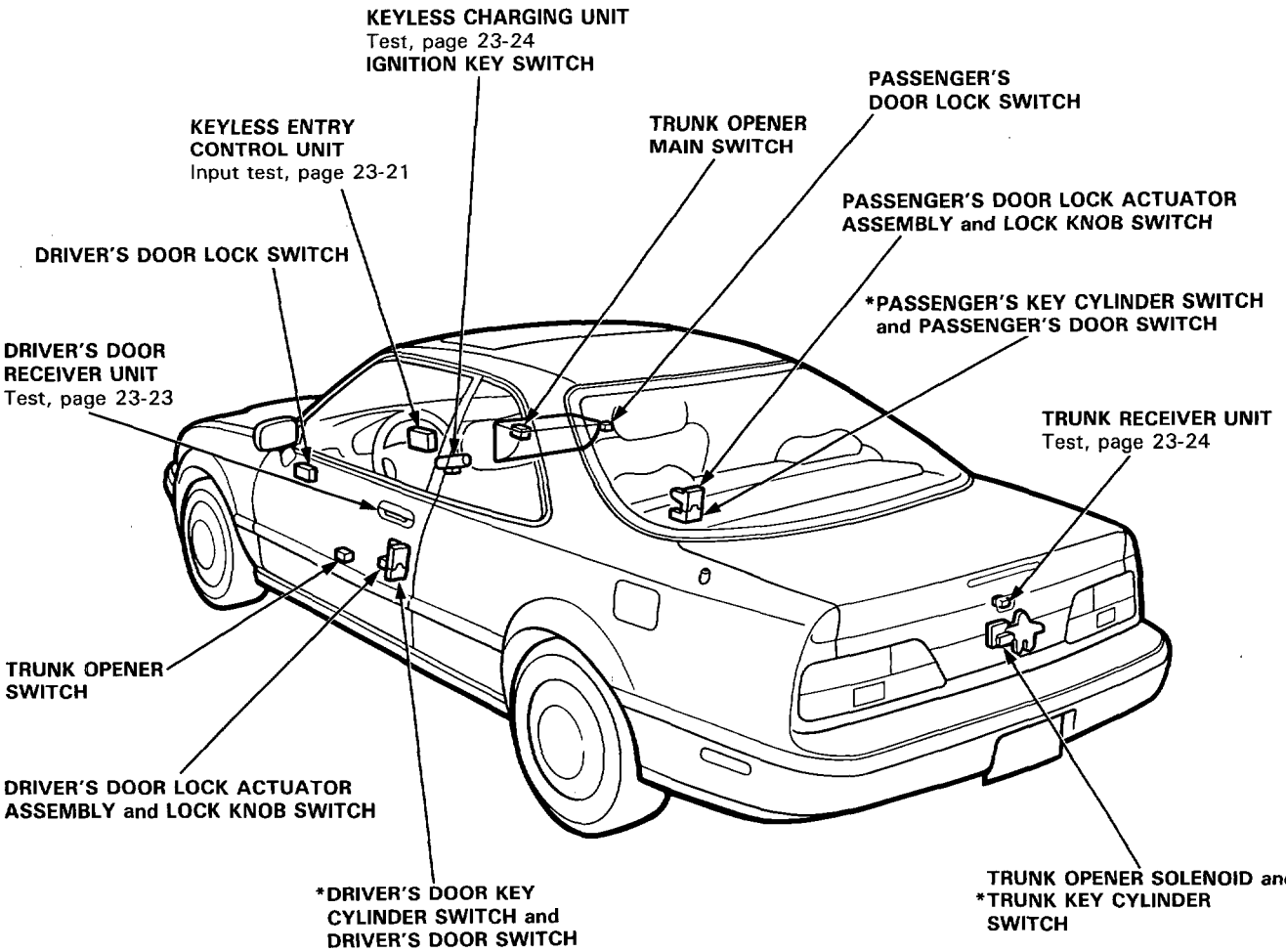
CAUTION:
- **All SRS wiring harnesses are covered with yellow outer insulation.**
- **Before disconnecting any part of the SRS wire harness, install the short connectors.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**

NOTE:
- RHD type is symmetrical to LHD type.
- For tests and replacements not mentioned here, refer to the 91 Legend Coupe Shop Manual..

*: With security system.

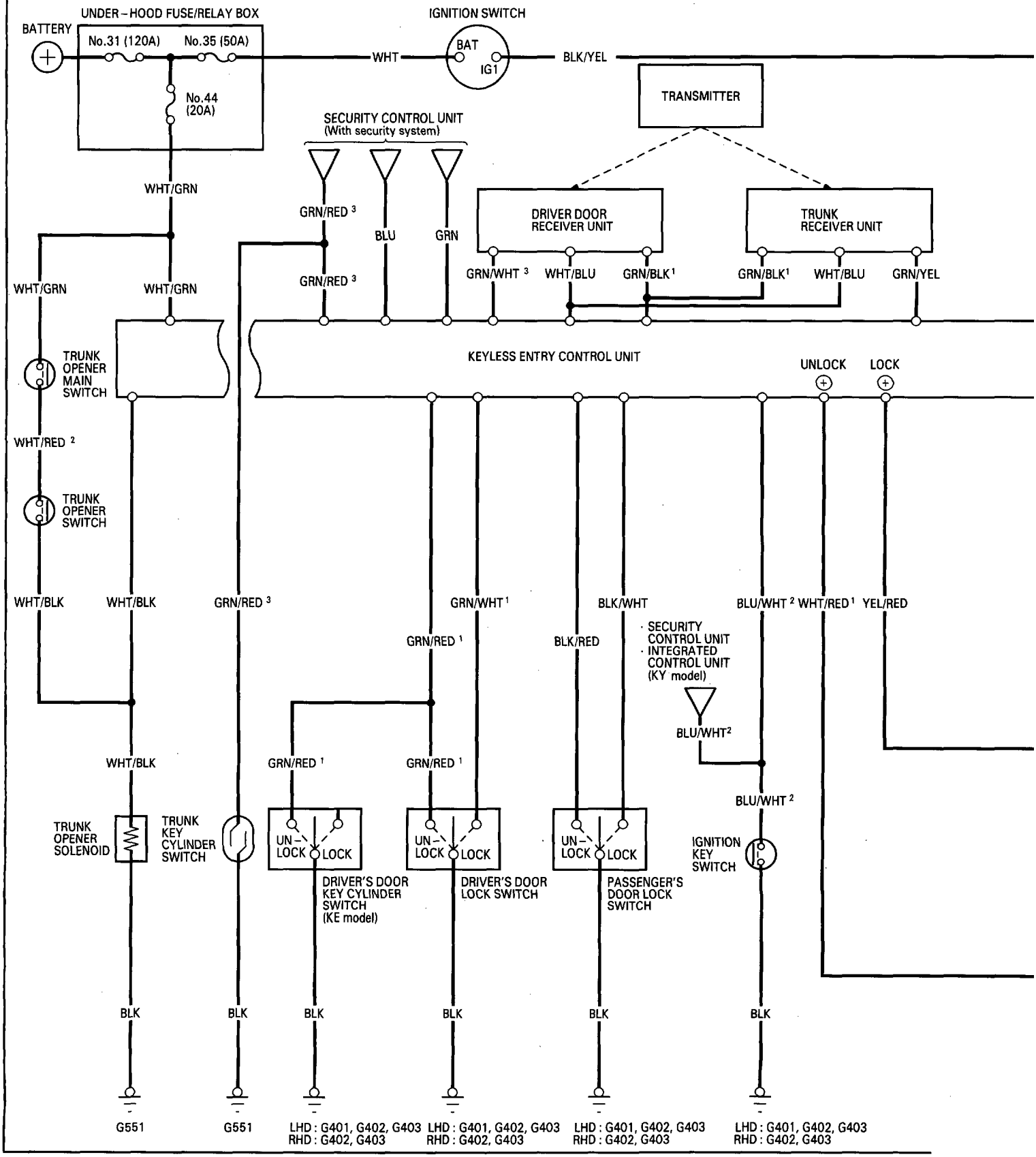


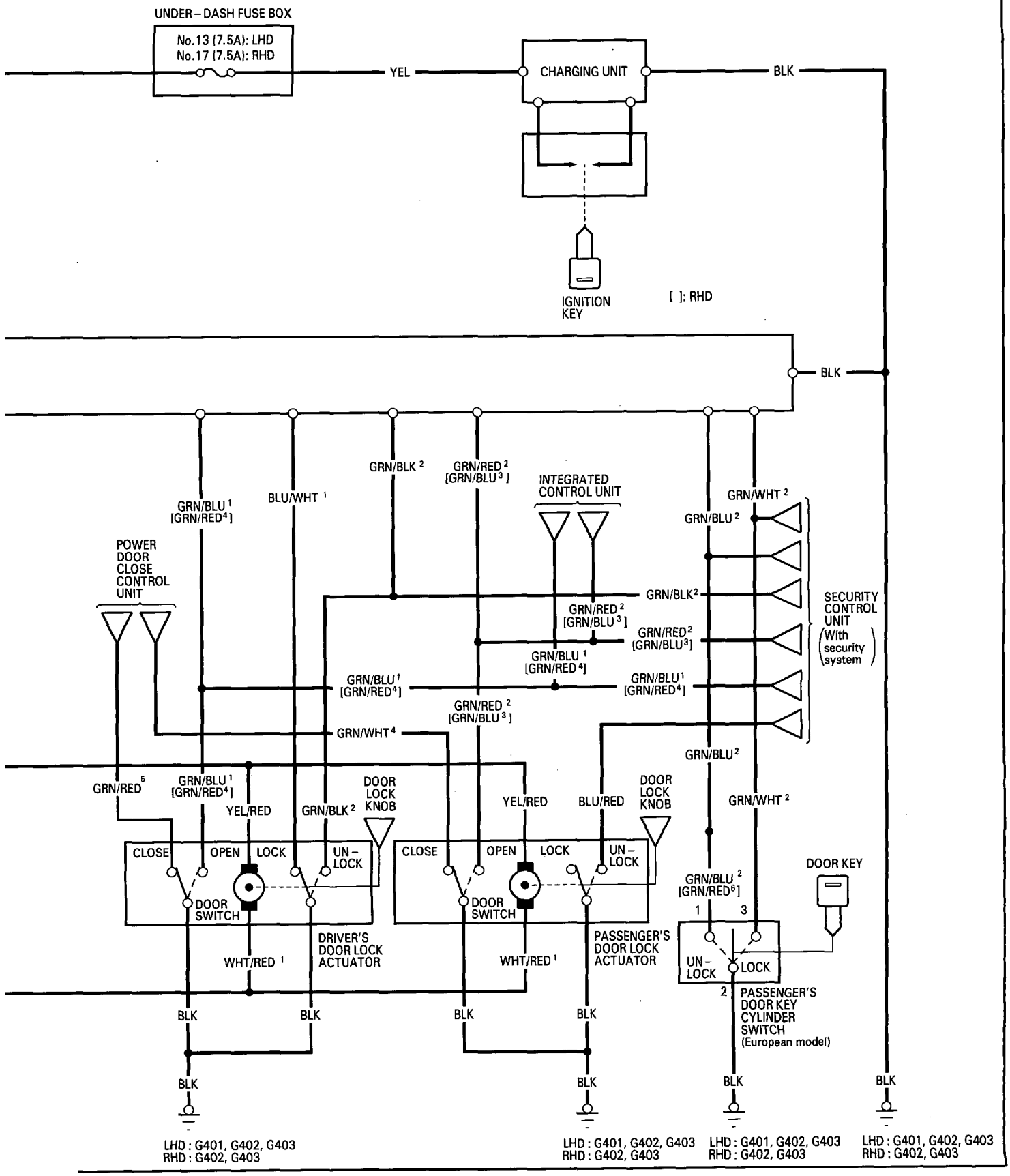
SRS MAIN HARNESS
(Covered with yellow outer insulation)



Keyless Entry System (Except KU model)

Circuit Diagram




UNDER-DASH FUSE BOX
No.13 (7.5A): LHD
No.17 (7.5A): RHD
YEL
CHARGING UNIT
BLK
IGNITION KEY
[ ]: RHD
BLK
GRN/BLU 1 [GRN/RED 4]
BLU/WHT 1
GRN/BLK 2
GRN/RED 2 [GRN/BLU 3]
INTEGRATED CONTROL UNIT
GRN/WHT 2
GRN/BLU 2
POWER DOOR CLOSE CONTROL UNIT
GRN/BLK 2
GRN/RED 2 [GRN/BLU 3]
GRN/RED 2 [GRN/BLU 3]
SECURITY CONTROL UNIT (With security system)
GRN/BLU 1 [GRN/RED 4]
GRN/BLU 1 [GRN/RED 4]
GRN/BLU 1 [GRN/RED 4]
GRN/RED 2 [GRN/BLU 3]
GRN/WHT 4
GRN/BLU 2
GRN/RED 5
GRN/BLU 1 [GRN/RED 4]
YEL/RED
GRN/BLK 2
DOOR LOCK KNOB
YEL/RED
BLU/RED
DOOR LOCK KNOB
GRN/WHT 2
CLOSE
OPEN
LOCK
UN-LOCK
DOOR SWITCH
CLOSE
OPEN
LOCK
UN-LOCK
DOOR SWITCH
DOOR KEY
GRN/BLU 2 [GRN/RED 6]
1
3
WHT/RED 1
DRIVER'S DOOR LOCK ACTUATOR
WHT/RED 1
PASSENGER'S DOOR LOCK ACTUATOR
UN-LOCK
LOCK
2
PASSENGER'S DOOR KEY CYLINDER SWITCH (European model)
BLK
BLK
BLK
BLK
BLK
BLK
BLK
BLK
LHD : G401, G402, G403
RHD : G402, G403
LHD : G401, G402, G403
RHD : G402, G403
LHD : G401, G402, G403
RHD : G402, G403
LHD : G401, G402, G403
RHD : G402, G403

Keyless Entry System (Except KU model)

Troubleshooting

NOTE: The numbers in the table show the troubleshooting sequence.

Symptom / Item to be inspected		Blown No. 44 (20 A) fuse (in the under-hood fuse/relay box).	Disconnected or obstructed door lock rod/linkage	Driver's door lock knob switch (in the door lock actuator)	Driver's door lock actuator	Passenger's door lock actuator	Driver's door lock switch	Passenger's door lock switch	Passenger's door key cylinder switch (in the door lock actuator)	Driver's door switch	Passenger's door switch	Ignition key switch	Control unit input test	Keyless entry system test	Poor ground	Open circuit in wires, loose or disconnected terminals.
Power door lock system doesn't operate at all.		1											2		G401, G402, G403 [G402, G403]	WHT/GRN
Doors don't lock or unlock with the driver's door lock switch.	Both doors						1						2		G401, G402, G403 [G402, G403]	GRN/RED[1] or GRN/WHT[1]
	One door		1		2											
Doors don't lock or unlock with the passenger's door lock switch.	Both doors							1					2		G401, G402, G403 [G402, G403]	BLK/RED or BLK/WHT
	One door		1		2											
Doors don't lock or unlock with the driver's door lock knob.	Both doors			1									2		G401, G402, G403 [G402, G403]	BLU/WHT[1] or GRN/BLK[2]
	One door		1		2											
Doors don't lock or unlock with the passenger's door key cylinder switch.*	Both doors								1				2		G401, G402, G403 [G402, G403]	GRN/BLU[2] or GRN/WHT[2]
	One door		1		2											
The door is not supposed to be locked, but it is locked. (Remains locked after the ignition key is inserted and the door is opened.)										2		1	3		G401, G402, G403 [G402, G403]	BLU/WHT[2]
The power door lock system operates properly but the keyless entry system doesn't operate.													2	1	G401, G402, G403 [G402, G403]	WHT/BLU, GRN/WHT[3], GRN/BLK
Trunk doesn't unlock with the keyless entry system.													2	1	G401, G402, G403 [G402, G403]	GRN/YEL GRN/BLK[1] WHT/BLU

* : European model
[ ]: RHD

Control Unit Input Test

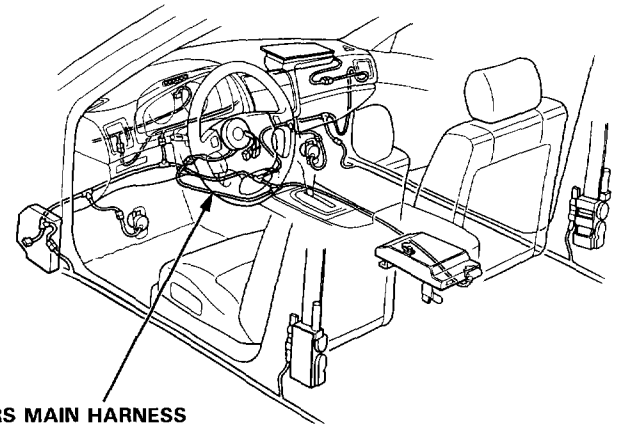
CAUTION:
- **All SRS wiring harnesses are covered with yellow outer insulation.**
- **Before disconnecting any part of the SRS wire harness, install the short connectors.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**

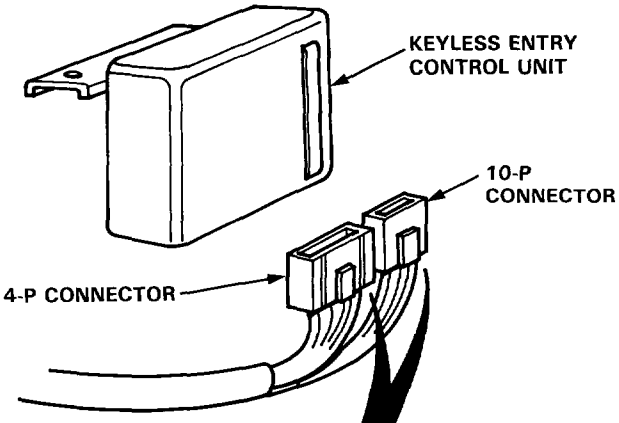
Remove the dashboard lower panel, then disconnect the 14-P and 10-P connector from the control unit.
Inspect the connector and socket terminals to be sure they are all making good contact.

- If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.

- If the terminals look OK, make the following input tests at the connector.
  - If any test indicates a problem, find and correct the cause, then recheck the system.
  - If all the input tests prove OK, the control unit must be faulty; replace it.

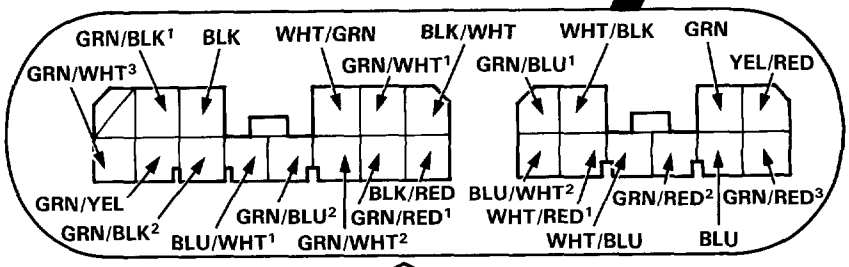
NOTE:
- Several different wires have the same color. They have been given a number suffix to distinguish them (for example, GRN/RED[1] and GRN/RED[2] are not the same).
- The illustration shows the LHD type.



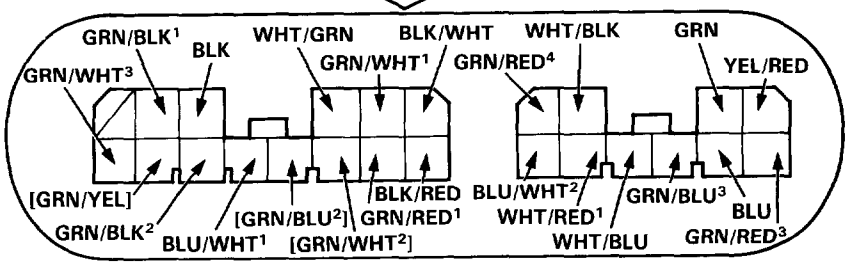


View from wire side

LHD



RHD
[ ]: KE model



Keyless Entry System (Except KU model)

Control Unit Input Test (cont'd)

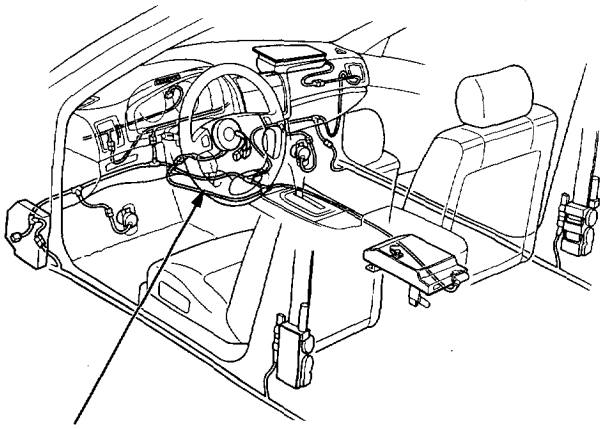
No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	• Poor ground G401, G402, G403 [G402, G403] • An open in the wire
2	WHT/GRN	Under all conditions	Check for voltage to ground: There should be battery voltage	• Blown No. 44 (20 A) fuse • An open in the wire
3	GRN/WHT[1]	Driver's door lock switch in LOCK	Check for voltage to ground: There should be 1 V or less.	• Faulty driver's door lock switch • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
	GRN/RED[1]	Driver's door lock switch in UNLOCK and driver's door key cylinder switch in LOCK (KE model)		
4	BLK/WHT	Passenger's door lock switch in LOCK	Check for voltage to ground: There should be 1 V or less.	• Faulty passenger's door lock switch • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
	BLK/RED	Passenger's door lock switch in UNLOCK		
5	BLU/WHT[1]	Driver's door lock knob in LOCK	Check for voltage to ground: There should be 1 V or less.	• Faulty driver's door lock actuator • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
	GRN/BLK[2]	Driver's door lock knob in UNLOCK		
6	GRN/BLU[1] [GRN/RED[4]]	Driver's door opened	Check for voltage to ground: There should be 1 V or less. NOTE: Before testing, remove No. 56 (7.5 A) fuse.	• Faulty driver's or front passenger's door switch • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
	GRN/RED[2] [GRN/BLU[4]]	Passenger's door opened		
7	BLU/WHT[2]	Ignition key is inserted into the ignition switch	Check for voltage to ground: There should be 1 V or less.	• Faulty ignition key switch • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
8	GRN/WHT[2]	Passenger's door key cylinder in LOCK	Check for voltage to ground: There should be 1 V or less as the switch is turned.	• Faulty door key cylinder • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
*	GRN/BLU[2]	Passenger's door key cylinder in UNLOCK		
9	WHT/RED[1] and YEL/RED	Connect the YEL/RED terminal to the WHT/GRN terminal, and the WHT/RED[1] terminal to the BLK terminal momentarily	Check door lock operation: All doors should unlock as the battery is connected momentarily.	• Faulty actuator • An open in the wire
		Connect the WHT/RED[1] terminal to the WHT/GRN terminal, and the YEL/RED terminal to the BLK terminal momentarily	Check door lock operation: All doors should lock as the battery is connected momentarily.	
10	WHT/BLK	Connect the WHT/BLK terminal to the WHT/GRN terminal momentarily	Check trunk opener solenoid operation: Trunk lid should unlock as the battery is connected momentarily.	• Faulty trunk opener solenoid • Poor ground G401, G402, G403 [G402, G403] • An open in the wire
11	GRN/RED[3]	Trunk key cylinder in UNLOCK	Check for voltage to ground: There should be 1 V or less.	• Faulty trunk key cylinder switch • Poor ground (G551) • An open in the wire
12	GRN	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Faulty security control unit • An open in the wire
13	BLU	Under all conditions	Check for voltage to ground: There should be battery voltage.	• Faulty security control unit • An open in the wire

CAUTION: To prevent damage to the motor, apply battery voltage only momentarily.

* : European model
[ ]: RHD

Keyless Entry System Test

CAUTION:
- **All SRS wiring harnesses are covered with yellow outer insulation.**
- **Before disconnecting any part of the SRS wire harness, install the short connectors.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**



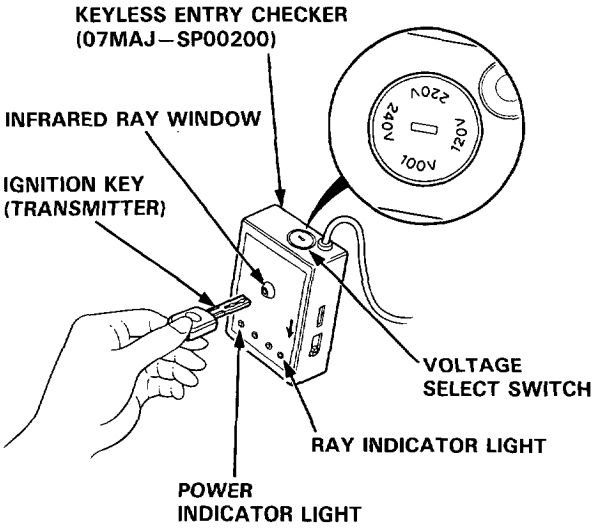
SRS MAIN HARNESS
(Covered with yellow outer insulation)

NOTE: Before proceeding to testing, make sure that the door lock system is functioning properly.

1. Adjust the voltage select switch according to local requirements, then connect the Keyless Entry Checker to an AC power outlet, and check that the power indicator light goes on.

2. Place the ignition key (transmitter) within 500 mm (19.7 in) from the front of the infrared ray window, and press the transmit button on the ignition key (transmitter). Check that the ray indicator light goes on.

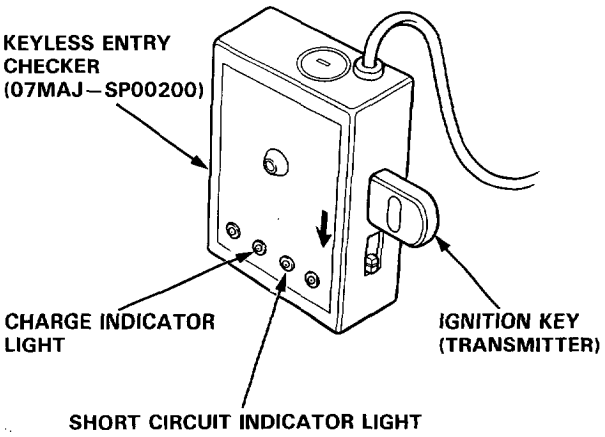
   - If the ray indicator light goes on, go to step 3.



   - If the ray indicator light does not go on, insert the ignition key into the keyless entry checker (the charge indicator light goes on), then check again.

     NOTE: If the short circuit indicator light goes on, pull out the ignition key once and reinsert.

     – If the ray indicator light goes on, go to step 4.
     – If it does not go on, check for contaminated or deformed ignition key tip.
     If the key tip is not contaminated or deformed, the ignition key (transmitter) itself is faulty.



Keyless Entry System (Except KU model)

Keyless Entry System Test (cont'd)

3. Remove the driver's door trim panel and trunk lid inner trim, and check that the receiver output levels change when the transmit button on the transmitter is pressed.

   - Driver's door receiver unit

     Connect the positive (+) probe of the digital multimeter to the GRN/WHT[3] terminal and the negative (−) probe to the GRN/BLK terminal.

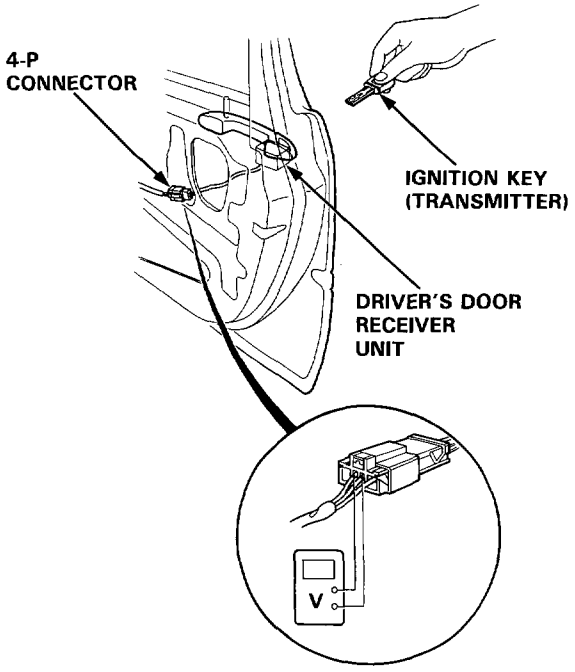
   - Trunk receiver unit

     Connect the positive (+) probe of the digital multimeter to the GRN/YEL terminal and the negative (−) probe to the GRN/BLK terminal.

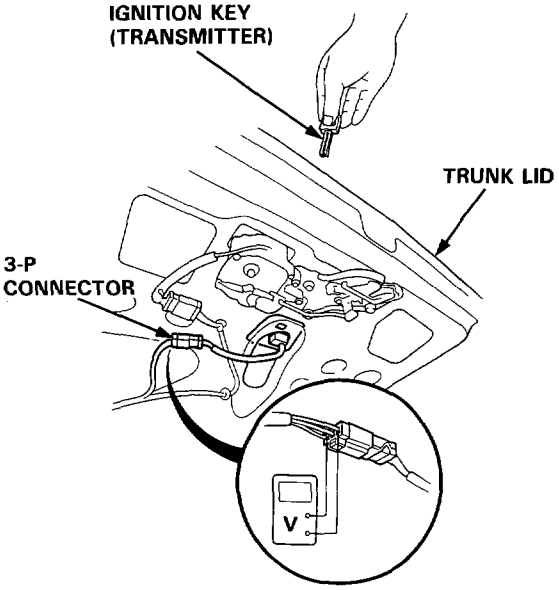
   NOTE:
   - Keep the 4-P (3-P) connector connected.
   - Use a digital multimeter (DC range).

     — If the output voltage momentarily changes to the range of approx 3.5 mV—1 V, go to step 4.

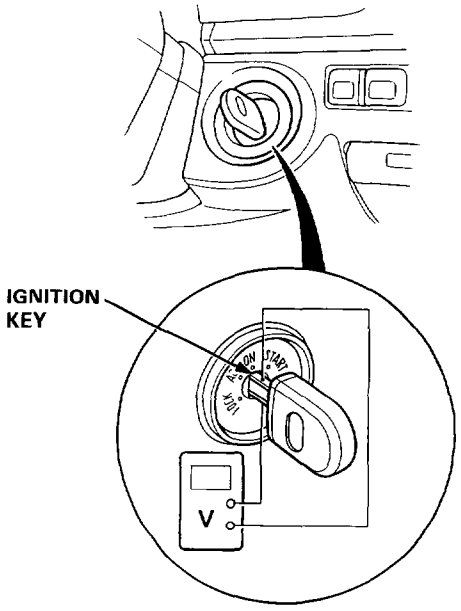
     — If there is no voltage, check for contaminated sensor on the receiver and external damage. If the sensor is not contaminated and there is no external damage, the receiver is faulty.



LHD type is symmetrical to RHD type.



4. Insert the ignition key (transmitter) into the ignition switch, and turn to ON. Then check whether there is charged voltage of 8—10 V between the key terminals.

   NOTE: Take care not to short-circuit between the key terminals or between the terminals and vehicle body during voltage measurement.

   - If there is proper voltage, check for contaminated sensor on the receiver and external damage.
   - If the voltage level is out of the proper range, the charging unit is faulty.